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1904-05

MEDICAL and SURGICAL

REPORT

OF

ST. LUKE'S HOSPITAL

YEAR ENDING SEPTEMBER 30, 1905

1416-1436 INDIANA AVENUE
AND
1427 MICHIGAN AVENUE
CHICAGO

MEDICAL

AND

SURGICAL

REPORT

OF

ST. LUKE'S HOSPITAL

YEAR ENDING SEPTEMBER 30, 1905

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AND

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CHICAGO

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LIST OF CLINICS.

OCTOBER—MAY
INCLUSIVE.

1905-1906.

SURGERY - - - - - - -	WEDNESDAYS	1:30 TO	3:30 P. M.
MEDICINE - - - - - - -	WEDNESDAYS	8:00 TO	9:00 A. M.
- - - - - - -	THURSDAYS	9:00 TO	10:00 A. M.
- - - - - - -	FRIDAYS	8:00 TO	9:00 A. M.
GYNECOLOGY - - - - - -	WEDNESDAYS	9:00 TO	11:00 A. M.
OPTHALMOLOGY AND OTOLOGY -	THURSDAYS	2:00 TO	5:00 P. M.

THESE CLINICS ARE OPEN TO
ALL PHYSICIANS.

LIST OF CASES TREATED

During Fiscal Year Ending September 30, 1905.

Department of Medicine.

CHARLES P. CLARK, M. D., House Physician.

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Specific infectious diseases—						
Lobar pneumonia	15	13	22	1		5
" " with pleurisy	2		2			
" " " purulent otitis media	2		2			
" " " nephritis	1					1
" " " endocarditis	1					1
" " " stricture of rectum		1		1		
" " unresolved	1			1		
Typhoid fever	21	11	29		2	1
" " with perforation	1					1
" " " pneumonia	1					1
" " " furunculosis	1					1
Influenza	10	5	15			
Scarlet fever	1					1
Small-pox	1				1	
Malaria	4	1	5			
" with cachexia	1		1			
Rheumatic fever	9	3	11	1		
" " with endocarditis	1	1		1		1
" " " endocarditis and tonsillitis		1	1			
" " " endocarditis, tonsillitis and chorea		1		1		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Specific infectious diseases—Continued.						
Rheumatic fever with chorea		1		1		
" " " pericarditis, tonsillitis and pleurisy	1			1		
" " " nephritis		1				1
" " " alcoholic gastritis	1		1			
Subacute articular rheumatism		1	1			
Subacute articular rheumatism with endocarditis		2		2		
Subacute articular rheumatism with erysipelas	1			1		
Erysipelas		1	1			
Blastomycosis	1			1		
Pulmonary tuberculosis	13	4	11		4	2
" " with terminal pneumonia	1					1
Syphilis, congenital	1					1
" tertiary	3		1	2		
" cerebral	1			1		
" with nephritis	1			1		
" " subacute articular rheumatism		1	1			
Diseases of the digestive system—						
Stomatitis, ulcerative		1	1			
Pharyngitis	1		1			
" with laryngitis	1	1	1	1		
" " " and gonorrhœal vaginitis		1	1			
Gastritis, acute	7	8	8	6	1	
" subacute	2			2		
" chronic	2	1	1	2		
Gastric dilatation		1				
Enteritis, acute	8	6	11	1	1	1
" chronic	1			1		
Chronic constipation	2		1	1		
" " with acute cerebral anaemia		1		1		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Diseases of the digestive system—Continued.						
Fæcal impaction		1	1			
Catarrhal jaundice	1	1	1	1		
Hepatitis		1	1			
Hepatic cirrhosis	1					1
Peritonitis, tuberculous with tuberculous adenitis		1		1		
Diseases of the respiratory system—						
Coryza	2	1	3			
" with pharyngitis	1		1			
Tonsillitis, acute follicular	3	1	2	2		
Bronchitis	1	5	3	3		
" with catarrhal otitis media		1	1			
" " neuraesthenia	1	1		2		
" " gonorrhœal vaginitis		1	1			
Broncho pneumonia		2				2
" with acute articular rheumatism	1			1		
Pleurisy	6	1	4	3		
" with bronchitis	2		1	1		
" " endocarditis	1			1		
" " nephritis and acute cardiac dilatation	1					1
" " nephritis and gastritis		1		1		
" " cholelithiasis		1		1		
Diseases of the circulatory system—						
Endocarditis	1			1		
" with acute dilatation	1	2		3		
" " acute dilatation and alveolar abscess	1			1		
" " obliterative pericarditis and nephritis		1				1
" " tonsillitis		1		1		
" " nephritis	1	1				2
Chronic valvular diseases	1	2		3		
Acute cardiac dilatation with acute enteritis and esophagismus	1					1
Myocarditis	3	2		2	1	2

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Diseases of the circulatory system—Cont.						
Myocarditis with chronic endocarditis and chronic rheumatism	1			1		
Fatty change of heart and liver	1					1
Fatty change of heart and liver with parenchymatous nephritis	1			1		
Pericarditis, simple	1	1	1	1		
" with traumatic pleurisy and dislocation of wrist.	1		1			
Angina pectoris	1			1		
Splenomyelogenous leukemia	1				1	
Diseases of the kidney—						
Nephritis, acute	3	2		2		3
" " with valvular disease		1				1
" " " alcoholic neuritis	1		1			
Nephritis, subacute hæmorrhagic	1		1			
Nephritis, chronic	7	4		6	1	4
" " with arteriosclerosis.	1					1
" " " myocarditis		1				1
" " " cystitis and enlarged prostate	2			1		1
Diseases of the nervous system—						
Meningitis, septic	2					2
Cerebral hæmorrhage	3	2				5
" " with hypostatic pneumonia	1					1
Cerebral hæmorrhage with endocarditis, arteriosclerosis and nephritis		1				1
Cerebral thrombosis	2	2	1	3		
" " with hypostatic pneumonia	1					1
Cerebral thrombosis with pneumonia, uræmia and second degree burn		1				1
Cerebral thrombosis with traumatic synovitis	1					1
Cerebral embolism	1	1		1		1
Intercostal neuralgia		1	1			
Amyotrophic lateral sclerosis	1			1		
Acute anterior poliomyelitis	1				1	

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Diseases of the nervous system—Continued.						
Tabes dorsalis	2	1		3		
" " with periostitis	1			1		
Paretic dementia	3	1		2	2	
Hysteria	5	3	2	4	2	
" with singultus		1	1			
" " pyloro-spasm		1	1			
" " hemiplegia	1			1		
Malingering	2		2			
Neuræsthenia	9	16	4	19	2	
Eneuresis	1			1		
Toxic amblyopia	1			1		
Acute dementia		1	1			
Chorea	2	1	1	2		
Epilepsy	4	1		2	3	
Exophthalmic goitre	2			2		
Diseases of the skin—						
Eczema	2	1	1	1	1	
" ragadiforme	1			1		
" seborrhoicum	1		1			
Dermatitis	3			3		
Scabies	2			1	1	
Urticaria	1		1			
Psoriasis	1	1	1	1		
" with alcoholic neuritis		1		1		
Tinea tonsurans	1			1		
Tinea sycosis	1		1			
Herpes zoster	2		2			
Furunculosis		1	1			
Constitutional diseases—						
Scorbutus	1		1			
Obesity with eneuresis		1			1	
Arthritis deformans	1				1	
Rickets	2	1	1	1	1	
Malnutrition	5	2	2	2		3
Marasmus		1				1
" with ileocolitis	1					1
Inanition	3			2		1
" with enteritis	2					2

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Constitutional diseases—Continued.						
Lumbago	2	2		4		
Diabetes mellitus	2			2		
" " with nephritis	1				1	
Intoxications—						
Acute alcoholism	1	1	2			
Acute opium poisoning	1	1	1	1		
Strychnia poisoning	1		1			
Mercury poisoning		1	1			
Carbon-monoxide poisoning	2		2			
Autointoxication	9	4	10	3		
Miscellaneous—						
Normal child artificially fed		1	1			
Totals	268	158	196	139	29	62

Mortality, 14.5 per cent.

Department of Surgery.

HARRY D. ORR, M. D., House Surgeon, First Division.

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Abscesses—						
Ankle		1		1		
Arm		1	1			
Cervical	3	3	3	3		
Elbow	1			1		
Face	1			1		
Gluteal		1		1		
Sacro-iliac	1			1		
Scrotal	1			1		
Adenitis—						
Axillary	2		1	1		
Cervical	6	10	13	3		
Inguinal	6	1	4		3	
Ankylosis—						
Elbow, partial	1			1		
Wrist, partial	1			1		
Appendicitis—						
Acute, operated	20	20	38	1		1
Acute, not operated	1	1		2		
Chronic, operated	4	7	11			
Chronic, not operated	1			1		
With abscess, operated	10	3	9	2		2
With general peritonitis, operated	2	4	2			4
" " " not operated		1				1
Arthritis—						
Gonorrheal—						
Knee	3	1		4		
Suppurative, not gonorrheal						
Knee	3		1	2		
Toe	1		1			
Bladder, rupture of	1					1
Brain abscess	1					1

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Burns—						
Arms and hands	9	6	2	13		
Body and Legs	3	3	1	3		2
Face	5	1		6		
Face and hands	6		2	4		
Feet	4			4		
Head and neck	2		1	1		
Thighs and legs	2	2	4			
Acid burns	1			1		
Frost burns—						
Ears	3			3		
Fingers	4		3	1		
Face	1		1			
X-Ray burns		1	1			
Bursitis—						
Ischial	1		1			
Knee, tubercular		1		1		
Carbuncle	2		1	1		
Cholecystitis	2	3	4			1
Cholelithiasis	7	3	7		2	1
Coccydynia		2	2			
Concussion, cerebral	4		4			
Contractures	3	1	2	2		
Crushing injuries—						
Abdomen, with internal hemorrhage	1					1
" " ruptured intestine	1					1
Arm	1		1			
Chest, with fracture of 10th, 11th, 12th ribs	1					1
" with fracture of 3rd, 4th, 5th ribs and crushing injury to both feet and one leg	1					1
" with fractured ribs, perforated pleura and crushed foot	1					1
" with fractured ribs, humerus and nose	1					1
" with fracture of 2nd, 3rd ribs, fracture of jaw and scalp wounds	1					1

DIAGNOSIS.	Patients.		Results			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Crushing injuries—Continued.						
Chest, with fractured clavicle	1					1
" with fracture of 5th cervical and 5th and 7th dorsal vertebra and compound fracture of tibia and fibula	1					1
Feet	7		6	1		
Fingers	14	1	5	10		
Hands	7		6	1		
Leg and thigh	6		2	1		3
Legs and thigh	1		1			
Pelvis	1					1
" with rupture of bladder	1					1
Toes	7		5	2		
Cryptorchidism, unilateral	1		1			
Cystitis	3	4	2	4	1	
Dislocations—						
Ankle, complicated	1					1
Clavicle	1		1			
Elbow	3		2	1		
Finger	3			3		
Hip	1		1			
Humerus, shoulder	4	1	2	3		
Wrist	3		2	1		
Epididymitis, tubercular	2			1		1
Epistaxis	2			2		
Fistulæ—						
Anal	2	2	2	2		
Fecal	5	1	3	3		
Vesical	2		1	1		
Floating cartilage	2	2	4			
Floating kidney		3	3			
Foreign bodies—						
Arm, needle	1		1			
Face, steel below eye	1		1			
Finger, fish-hook	2		2			
Hand—						
Steel	4		4			
Glass		1	1			

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Foreign bodies—Continued.						
Hand—						
Needle	1		1			
Nail, beneath	2	1	3			
Thigh	1		1			
Throat, fishbone	2	1	2	1		
Stomach, pin		1	1			
Fractures—						
Carpal	2			2		
Clavicle	2		2			
Femur	8		7	1		
" neck of	1	3	3	1		
" fibula, compound dislocation of ankle and tetanus	1					1
Fibula	7		5	2		
Humerus	4	1	5			
" compound	1		1			
" burns and facial erysipelas	1		1			
" neck of and scapula	1		1			
Maxillae—						
Inferior	3		3			
Superior	1		1			
Metacarpals	7		5	2		
Metatarsals—						
One	2			2		
Two or more	3		2	1		
Nasal bones	2		2			
Os Calcis	1		1			
Os Calcis and astragalus	1		1			
Patella	2		1	1		
Phalanges	2		2			
" compound	2		1	1		
Pelvis	2		2			
Radius, other than Colles'	3	2		5		
" Colles'	6	1		7		
Ribs—						
One	5	1	4	2		
Two or more	3		2	1		
" " " and punctured pleura	1			1		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Fractures—Continued.						
Scapula	1		1			
" and 6, 7, 8, 9 ribs	1		1			
Skull—						
Base	2		1			1
" and vault and scapula	1					1
" ribs and vertebra	1					1
Vault	2		1			1
" compound	1					1
" 5 and 6 ribs	1					1
" crushed foot	1					1
" inferior maxilla-bilateral	1		1			
" rupture middle-meningal artery	1		1			
Sternum	1		1			
Tibia	4		4			
" and fibula	16		15	1		
" " " compound	5		5			
" " " " comminuted	1		1			
" " " with traumatic delirium	1					1
Ulna	3		2	1		
Olecranon	1			1		
" compound	2			2		
" compound and dislocation of head of radius	1			1		
Ulna and radius	2	1	3			
" " " compound comminuted	1			1		
Galactocele		1	1			
Gangrene of leg following crushing injury	1		1			
Gastroptosis		1	1			
Goitre—						
Exophthalmic		1	1			
Colloid	1	2	3			
Parenchymatous		1	1			
Hematuria, etiology unknown	2		1	1		
Hemorrhoids	13	6	19			
Hernia—						
Femoral	1	1	2			
" strangulated		2	2			

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Hernia—Continued.						
Femoral and inguinal	1	2	2	1		
Inguinal—						
Unilateral	43		42	1		
Bilateral	6	1	7			
Ventral—						
Umbilical	1	1	2			
Post-operative	3	6	9			
Ventral		3	3			
Hydrocele—						
Unilateral	5		5			
Bilateral	1		1			
Hydrocele of canal of Nuck		2	2			
Infections—						
Arm	2			2		
Back	1			1		
Face	1			1		
Fingers	3	2	2	3		
Foot	6	1	4	3		
Hand	18	1	4	15		
Leg	1			1		
Post-proctal	2		2			
Toes		1	1			
Intestinal obstruction—						
Acute	1	2	1			2
Chronic	1			1		
Intussusception	1		1			
Ischio-rectal abscess	1	4	2	3		
Liver abscess	1					1
Meningitis	1					1
Metatarsalgia	1		1			
Neoplasms—						
Carcinoma—						
Breast		12	11	1		
Colon-cecum	3	1		2		2
Esophagus	5			4	1	
Jaw	1			1		
Larynx	4	1		1	2	2
Liver	1			1		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Neoplasms—Continued.						
Carcinoma—						
Rectum	2	1		1	2	
Stomach		1			1	
Sub-maxillary glands	1	1		1	1	
Tongue	4	1	2	1		2
Clavis		1		1		
Cysts, parotid		2	1	1		
Endothelioma, testicle	1		1			
Epithelioma—						
Back	2		2			
Face	4	2	4	1	1	
Hand	1		1			
Fibroma—						
" neck		2	2			
" prostate	1		1			
Ganglion	1	2	3			
Hypernephroma	1					1
Lipoma	1	1	2			
Neuroma, post amputation	3		3			
Nevus, face	1	2	1	2		
Osteoma, tibia	1		1			
Papilloma—						
Bladder	2		1	1		
Rectum		2	2			
Sarcoma—						
Brain		1		1		
Jaw	1			1		
Liver		1				1
Neck		1			1	
Radius		2		1	1	
Testicle	1		1			
Nephritis—						
Hydronephrosi with dilated ureter	1			1		
Peri-pyonephrosi	1	1	1	1		
Pyelitis		2	1	1		
Pyonephrosi	2			1	1	
" tubercular, bladder involved	1					1

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Nephritis—Continued.						
Rupture of kidney	1			1		
Nephrolithiasis	3	2	2	1	2	
Non-union of fracture	1		1			
Œdema—						
Hand	1			1		
Knee	1			1		
Orchitis—						
Suppurative	2		1	1		
Traumatic	2		2			
Tubercular	2		2			
Osteo-arthritis—tubercular—						
Foot		2	1	1		
Hand	1		1			
Knee	4		4			
Multiple joints		1			1	
Shoulder	1				1	
Osteomyelitis, non-tubercular—						
Inferior maxilla	1		1			
Femur	3			3		
Femur—post-typhoid	1			1		
Olecranon	1			1		
Tibia	6	3	4	5		
Skull with extra-dural abscess	1		1			
Osteomyelitis, tubercular—						
Ileum	1			1		
Sternum	3	1	3	1		
Tibia	1		1			
Paralysis—						
Facial	1			1		
Ulnar	1		1			
Periostitis	2	1	2	1		
" Syphilitic	1		1			
Peritonitis—						
Traumatic	1		1			
Tubercular	1	2		2	1	
Phimosis	7		7			
Procedentia recti	1			1		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Prostate—						
Hypertrophied	7		2	5		
Abscess of	1		1			
Redundant Skin flap following leg amputation	1		1			
Retention-Urinary-Acute	6		5			1
Septicemia	2					2
Spina Bifida		1			1	
Sprain—						
Ankle	20		3	17		
Back	3			2	1	
Elbow	3			3		
Knee	2			2		
Thumb and Fingers	4			4		
Wrist	8	1		9		
Stricture—						
Rectal		3	1	2		
Urethral	5		5			
Synovitis—						
Elbow, traumatic	1		1			
Knee "	5	1	3	3		
Thrombo-phlebitis—leg		1	1			
Ulcers—						
Gastric	1		1			
Simple	4		3	1		
Syphilitic	4		1	3		
Trophic	1	1		2		
Varicose	2	3	3	2		
Unhealed Stumps	5		4	1		
Ureterolithiasis	1		1			
Urethral fistula—perineal	1		1			
Urethral rupture	1		1			
Urethrolithiasis	1		1			
Varicocele	7		7			
Varicose Veins	2	1	3			
Varicose Veins with Ulcers	2	1	3			
Wounds—						
Abrased—						
Face	3		2	1		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Wounds Continued.						
Abrased—						
Finger	3			3		
Foot	1			1		
Hand	4		1	4		
Leg	1		1			
Scalp	1			1		
Shoulder	2		1	1		
Contused—						
Abdomen	1	1	1	1		
Arm	5			3	2	
Back	12		9	1	2	
Chest	10		3	7		
Elbow	2			2		
Eye	5		1	4		
Face	7		1	5	1	
Fingers	20			21		
Foot	15		8	6	1	
Hand	9		1	8		
Head	4	1	1	4		
Hip	8		3	3	2	
Knee	6		2	3	1	
Leg and thigh	5		1	4		
Multiple	2			2		
Sacral and Coccygeal region		2	2			
Shoulder	7	1	2	5	1	
Testicle	3			2	1	
Toes	11			11		
Gunshot—						
Abdomen-Bladder and Intestine perforated	1					1
Abdomen	1		1			
Axilla		1		1		
Back	1		1			
Heel with Compound Comminuted —Fracture of Os Calcis	1			1		
Hand	3			3		
Head	1					1

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Wounds Continued—						
Pelvis		1	1			
Thigh	2		1	1		
Incised—						
Arm	3			3		
Chest	1		1			
Ear	4			4		
Eyelid	8			8		
Face	13			13		
Finger	24	1		25		
Hand	15	1		16		
Leg	3	1		4		
Scalp	10			10		
Thigh	1		1			
Throat	1			1		
Toes	1			1		
Wrist	7	1	2	6		
Lacerated—						
Arm	1	1	1	1		
Back	1			1		
Ear	2			2		
Elbow	1			1		
Face	23	2	3	22		
Fingers	42			42		
Foot	2		1	1		
Hand	16	1		16	1	
Hip	3			3		
Knee	2			2		
Leg and Thigh	5			5		
Mouth	4		1	3		
Neck	2			2		
Scalp	45	1	2	44		
Toes	6		2	4		
Punctured—						
Ankle	1			1		
Arm	4		1	3		
Back	1			1		
Chest	1			1		
Fingers	6			6		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Wounds Continued—						
Foot	10			10		
Hand	10			10		
Knee	3		2	1		
Leg and Thigh	4			4		
Toes	2			2		
Stab wounds—						
Abdomen	1		1			
Back	1			1		
Chest—Pleura punctured	2			1		1
Groin	1				1	
Kidney	1			1		
Shoulder	2			2		
No Diagnosis Made	3	1			4	
Grand Total	1132	227	589	671	41	58
Counted twice	9	6				
	1123	221				

List of Operations.

OPERATIONS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Adenectomy—						
Axillary	2		1	1		
Cervical	6	10	13	3		
Inguinal	6	1	4	3		
Amputation—						
Arm	4		4			
Breast		12	11	1		
Hand	5	1	5	1		
Foot	5		4	1		
Leg	12		10	2		
Scrotum	1		1			
Thigh	6		4	1		1
Finger	13	1	8	6		
Toes	9		9			
Tongue	4	1	2	1		2
Appendectomy—						
Acute	20	31	49	1		1
Chronic	4	37	41			
With Abscess	10	3	9	2		2
With General Peritonitis	2	4	2			4
Arthrotomy—						
Floating Cartilage	2	2	4			
Suppurative Arthritis	2		1	1		
Bone Operation—						
Curettments	15	4	14	5		
Drilling	1		1			
Osteoclasis-metatarsals	1		1			
Planting	1			1		
Sequestrectomy	4		4			
Trephining for Middle Hemorrhage	1		1			
Trephining and Elevation of Depressed Skull Fractures	3					3
Wiring	3		1	2		
Catheterization Emergency	6		5		1	
Circumcision	7		7			

OPERATIONS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Cholecystectomy	1	2	3			
Cholecystectomy and Choledochotomy	2		2			
Cholecystotomy	6	5	9			2
Coccygectomy		2	2			
Colostomy—						
Chole-	1			1		
Ilio-	1			1		
Inguinal-		1		1		
Cystotomy	3		1			2
Enterostomy		1				1
Entero-		1		1		
Gastro-		2	1	1		
Epididymectomy—tubercular	2			1		1
Excision—						
Bursae	1	1	1	1		
Carbuncles	2		2			
Contractures	3	1	2	2		
Fistulae:						
Anal	2	2	2	2		
Vesical	3		2	1		
Foreign Bodies	9	1	10			
Toe Nail	2			2		
Tumors—						
Carcinona						
Epithelioma	4	1	5			
Fibroma		2	2			
Ganglion	1	2	2	1		
Lipoma	1	2	3			
Neuroma	2		2			
Nevus	1	2	1	2		
Osteoma	1		1			
Papilloma		1	1			
Parotid cyst		1	1			
Sarcoma	1			1		
Exploratory Operation—						
Jaw	1			1		
Laparotomy	6	4	3	2		5
Nephrotomy	2	1	2	1		

OPERATIONS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Hemorrhoid Operations—						
Clamp and Cautery	5	5	10			
Ligation and Excision	8	20	28			
Herniotomy—						
Inguinal—						
Bilateral	6	1	7			
Unilateral	43		42	1		
Femoral	1	1	2			
Femoral Strangulated		2	2			
Femoral and Inguinal		2	2			
Ventral—						
Post Operative	3	6	9			
Umbilical	1	1	2			
Ventral		3	3			
Hydrocelectomy—						
Unilateral	5		5			
Bilateral	1		1			
Canal of Nuck		2	2			
Incision and Drainage—						
Abscesses	9	10	7	12		
Infections	19	3	6	15		1
Kraske		2	1	1		
Laminectomy	3		1	1		1
Laparotomy—(not included under other heads.)						
Bullet Wounds of Bladder and Intestine	1					1
Fecal Fistulae	4	1	4	1		
Intestinal Obstruction	1	1	1			1
Intussusception	1		1			
Stab Wound of Abdomen	1		1			
Ligation of External Carotid	1			1		
Nephrectomy	1		1			
Nephropexy		3	3			
Nephrotomy	4	1	3	1		1
Nerve Grafting	1			1		
Orchidectomy	5		5			
Orchidopexy	1		1			
Phlebectomy	4	2	6			

OPERATIONS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Plastic on Amputated Stumps	2		2			
Prostatectomy:						
Perineal	1		1			
Suprapubic	2		2			
Reapposition of Fractures—						
Carpal	2			2		
Clavicle	2		2			
Femur	10	3	10	2		1
Fibula	8		5	3		
Humerus	7	1	8			
Maxillae, Inferior	4		4			
Metacarpals	7		5	2		
Metatarsals	5		2	3		
Nasal Bones	2		2			
Os Calcis	1		1			
" " and Astragalus	1		1			
Patella	2		1	1		
Phalanges	4		3	1		
Pelvis	2		2			
Radius, not Colles'	3	2	5			
Radius, Colles'	6	1		7		
Scapula	4		4			
Skull, Elevation of depressed fracture	5		2			3
Sternum	1		1			
Tibia	4		4			
Tibia and Fibula	23		21	1		1
Ulna	7		2	5		
Ulna and Radius	3	1	3	1		
Reduction of Dislocations—						
Ankle	1					1
Clavicle	1		1			
Elbow	4		2	2		
Finger	3		3			
Hip	1		1			
Humerus (Shoulder)	4	1	2	3		
Wrist	3		2	1		
Removal of Foreign Bodies—						
Fish-bone from Throat	2	1	2	1		

OPERATIONS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved	Died.
Removal of Foreign Bodies—Continued—						
Fish-hook from Finger	2		2			
Glass from Hand		1	1			
Needle—Arm and Hand	2		2			
Splinter from under Nail	2	1	3			
Steel in hand—face—thigh	6		6			
Skin Graft	8	6	12	2		
Thoracotomy—stab wound	1					1
Thyroidectomy	1	4	4	1		
Tracheotomy for Carcinoma of Larynx	1			1		
Uretero-lithectomy	1		1			
Urethrolithectomy	1		1			
Urethrotomy—internal	2		2			
Varicocelectomy	7		7			
Wound suturing	149	5	15	139		
Grand Total	662	235	594	266	1	36

Gynecological Department.

CARL S. OWEN, M. D., House Gynecologist.

DIAGNOSIS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Infections—					
Adhesions following pelvic peritonitis	2	2			
Abscess—					
Abdominal	1	1			
Bartholinian	1	1			
" with vaginitis and endocervicitis	1	1			
Pelvic	16	8	8		
" with endometritis	1	1			
" " " and appendicitis.	1	1			
" " secondary general peritonitis	1				1
Perineal, tubercular	1	1			
Tubo-ovarian-bilateral	1	1			
" " with endometritis and pelvic peritonitis	1	1			
" " " metritis	1	1			
" " " salpingo-oöphoritis	1	1			
Cellulitis—					
Pelvic	2		2		
" with anteflexion	1		1		
Inflammations—					
Endometritis	30	30			
" with appendicitis and cystic ovary	2	2			
" " crystic ovary	1	1			
" " endocervicitis	5	5			
" " " and rectocele	1	1			
" " haematosalpinx	1	1			
" " haematocele	1	1			
" " haemorrhoids	2	2			
" " hernia of cul-de-sac	1	1			
" " salpingo oöphoritis	2	2			

DIAGNOSIS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Inflammations—Continued—					
Endometritis					
" with stenosis of cervix	1	1			
" " " " " and papilloma of back	1	1			
" " salpingitis and infected intra-ligamentous cyst	1	1			
" " salpingitis, unilateral	4	4			
Metritis	1	1			
" with appendicitis	1	1			
" " pelvic cellulitis	1	1			
Oöphoritis	1	1			
" with abdominal sinuses	2	2			
" " appendicitis	2	2			
" " haematoma of broad ligament	1	1			
" " pelvic peritonitis	1	1			
" tubercular with appendicitis	2	1			1
Peritonitis—					
Pelvic	3	2	1		
" with cellulitis	1	1			
Periurethral glands, inflammation of	1	1			
Pyosalpinx—					
Unilateral	3	2	1		
Bilateral	6	4	1	1	
Unilateral with chronic appendicitis	4	4			
" " " " and tubo-ovarian abscess	1	1			
Bilateral with cystic ovary	3	3			
Unilateral with cystitis	4	3	1		
Pelvic abscess	1		1		
Pelvic cellulitis	1			1	
Salpingitis—					
Unilateral	8	6	1	1	
" with appendicitis and secondary intestinal obstruction	1				1
" " ventral hernia	1	1			
bilateral, with cystic ovary	1	1			

DIAGNOSIS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Inflammations—Continued—					
Salpingo-oöphoritis, unilateral	1	1			
" " " with appendicitis	1	1			
" " bilateral	3	3			
Septicaemia, streptococcic post-abortive	1				1
Vaginitis, gonorrhoeal	3		2	1	
" ulcerative	1		1		
" with endometritis and endocervicitis	1	1			
Lacerations of—					
Cervix	6	5	1		
" with cystitis	1	1			
" " endometritis	3	3			
" " " endocervicitis and hemorrhoids	1	1			
" " " and gonorrhoeal vaginitis	1	1			
" " hypertrophic bulbi vestibulares	1	1			
" " pregnancy and extreme flat pelvis	1	1			
" " floating kidney			1		
" and urethra	1	1			
Perineum—					
" incomplete	5	5			
" complete	1	1			
" with appendicitis	2	2			
" " " and oophoritis	1	1			
" " " " retroflexion	1	1			
" and cervix, with appendicitis, cystic ovary and endometritis	3	3			
" and cervix, with appendicitis, oöphoritis and endometritis	1	1			
" and cervix, with appendicitis, retroversion, ventral hernia, endometritis, Bartholinian abscess and hemorrhoids	1	1			
" and cervix, with appendicitis and hemorrhoids	3	3			

DIAGNOSIS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Lacerations—Continued—					
Perineum—					
" and cervix, with endometritis					
" and hernia of					
" the cul-de-sac	1	1			
" and cervix with endometritis and retroflexion	1	1			
" and cervix with nephroptosis	1		1		
" " " " procidentio	1	1			
" " " " vaginitis, endometritis and cyst of broad ligament	1	1			
" with cutaneous wart	1	1			
" " endometritis	1	1			
" " " and dermoid cyst	1	1			
" " " and hemorrhoids	1	1			
" " " retroversion and hemorrhoids	1	1			
" " hemorrhoids	1	1			
" " neurasthenia	1	1			
" and cervix with retroflexion	1	1			
" with secondary anaemia	1	1			
" " urethrocele	1	1			
" " endometritis and retroflexion	1	1			
" " oophoritis	1	1			
Malpositions—					
Anteflexion	2	2			
" with cystitis	1			1	
" " endometritis	1	1			
" " sterility	1	1			
Procidentia	6	5	1		
" " endometritis	1	1			
" " " and appendicitis	1	1			
" " oophoritis	1	1			
Retrodisplacements	2	2			
" with appendicitis	1	1			
" " " and endometritis	3	3			

DIAGNOSIS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Retrodisplacements—Continued—					
" with endometritis and hemorrhoids	1	1			
" of gravid uterus	1	1			
" with hemorrhoids	1	1			
" " neurasthenia	3	2	1		
" " oophoritis	1	1			
" " " and fibroma	1	1			
Neoplasms—					
Adenoma uteri	1	1			
Carcinoma uteri, operable	5	1	3		1
" " inoperable	5		5		
" " with secondary panoptholmitis and septico-pyaemia.	1				1
" of entire pelvic viscera	1				1
" " cervix, uteri	6	1	1	4	
" " " " and broad ligament	1			1	
" " vagina	1		1		
" " ovary	2				2
Cysts—					
Bartholinian	2	2			
of Broad ligament	1	1			
Dermoid of ovary	1	1			
" " " with endometritis	1	1			
of ovary—unilocular	1	1			
" " multilocular	5	5			
" " with twisted pedicle and appendicitis	1	1			
" " " hemorrhoids	1	1			
" " " papillomatous degeneration	1	1			
" vagina	1	1			
Neoplasms—					
Myoma uteri	27	25	1	1	
" " with abscess of left broad ligament	1	1			
" " " anteflexion	1	1			
" " " appendicitis	2	2			
" " " " and cystic ovary	3	3			
" " " pyosalpinx and endometritis	1	1			
" " " hemorrhoids	2	2			
	1	1			

DIAGNOSIS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved	Died.
Neoplasms—Continued—					
Myoma uteri—					
" " with infected uterus and femoral thrombophlebitis	2	1	1		
" " " introligamentous cyst	2	2			
" " " laceration of perineum and cervix	1	1			
" " " laceration of perineum	1	1			
" " " five months pregnancy	1	1			
" " " pyosalpinx	1	1			
" " " retroflexion	1	1			
Papilloma of ovary	1	1			
Sarcoma of ovary	2	1	1		
" " uterus	3	1	2		
Disorders of Gestation—					
Ablatio placental	1				1
Abortions incomplete	9	9			
" " with endometritis	1	1			
" " " lacerated cervix	1	1			
" threatened	4	4			
" complete	8	7	1		
Ectopic gestation	5	4			1
" " with secondary lung abscess	1				1
Hyperemesis gravidarum	3	3			
Œdema of Pregnancy	1	1			
Pregnancy with death of fœtus	1	1			
Pregnancy—to return for delivery	1		1		
Pseudocyesis	1	1			
Miscellaneous—					
Agalactia	1		1		
Dysmenorrhoea	5	4	1		
" with hysteria	1	1			
Leucorrhoea	1		1		
Menorrhagia	1	1			
Omental adhesions	1	1			
Resection of tubes for Sterilization	1	1			
Stenosis of cervix	1	1			
Urethrocele with incontinence of urine	1	1			
Vesico—vaginal fistula	2	1	1		

OPERATIONS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Abscess, Bartholinian with incision and drainage	2	2			
" pelvic " " " "	15	10	5		
" " " " drainage and curettage...	2	1			1
" " " " incision, drainage, and excision of abdominal fistula	1	1			
" tubo-ovarian bilateral, with incision, drainage and curettage.....	1	1			
Caruncle, excision of, with dilatation of sphincter.	1	1			
Curettage	47	41	3	3	
" with appendectomy.....	1	1			
" " cauterization of cervix for carcinoma.....	1	1			
" " dilatation of sphincter for hemorrhoids	4	4			
" " excision of papilloma of back..	1	1			
" " hemorrhoid operation.....	3	3			
" " repair of incised hymen.....	1	1			
" " tent insertion.....	1	1			
" " urethral advancement.....	1		1		
Cystoscopic examination.....	1	1			
Cyst, Bartholinian, excision of.....	3	3			
" dermoid, excision of, with curettage and perineorrhaphy.....	1	1			
" ovarian, excision of	4	4			
" " " " with appendectomy curettage and trachelorrhaphy..	1	1			
" " excision of, with oöphorectomy, curettage trachelorrhaphy and perineorrhaphy....	1	1			
Cyst, ovarian, excision of, with ventral herniotomy curettage, trachelorrhaphy and perineorrhaphy..	1	1			
Examination under anesthesia.....	1		1		
Exploratory laparotomy..	2	2			
" " with curettage and hemorrhoid operation	1	1			
" " with incision and drainage of abscess.	1				1

OPERATIONS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Exploratory laparotomy—Continued—					
" " with separation of pelvic adhesions.	2	2			
" " " for ectopic gestation...	2	2			
Hysterectomy abdominal.....	3	3			
" with appendectomy curettage and perineorrhaphy	1	1			
" " " " resection of ovary, curettage and ligation of hemorrhoids.....	1	1			
" " curettage, trachelorrhaphy, perineorrhaphy, and dilation of sphincter.....	1	1			
" " oöphorectomy and excision of cyst of broad ligament.....	1	1			
" " Salpingo-oöphorectomy....	1	1			
" " Vaginal	1			1	
" " secondary enucleation of eyeball for panoptholmitis	17	14	3		
Panhysterectomy.....					
" with appendectomy.....	1	1			
Hystero-myomectomy, abdominal.....	5	5			
" " with appendectomy	2	2			
" " " " " and Salpingo-oophorectomy.....	3	3			
" " with curettage.....	1			1	
" vaginal—by morcellation	141	121	13	4	3
Hysterorrhaphy abdominal.....	2	2			
" " with appendectomy.	1	1			
" " " " and curettage.....	1	1			
" " " appendectomy, and curettage and excision of Bartholinian abscess and hemorrhoids..	1	1			

OPERATIONS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Hysterorrhaphy abdominal—Continued—					
" " with appendectomy, curettage and hemorrhoid operation.....	1	1			
" " with appendectomy curettage and trachelorrhaphy....	1	1			
" " " appendectomy, curettage trachelorhaphy and perineorrhaphy	6	6			
" " " appendectomy Salpingo-oöphorectomy curettage trachelorrhaphy and perineorrhaphy	1	1			
" " " appendectomy trachelorrhaphy perineorrhaphy, and hemorrhoid operation..	1	1			
" " with curettage.....	1	1			
" " " " Schroeder operation, and perineorrhaphy,.	1	1			
" " with Salpingo-oöphorectomy, unilateral	1	1			
" " " Salpingo-oöphorectomy unilateral, and curettage....	1	1			
" " " Salpingo oophorectomy bilateral and excision of dermoid	2 1	2 1	 1		
" Vaginal with anterior colporrhaphy and perineorrhaphy ..	2	2			
" " " curettage.....	2	2			
Manual reposition of uterus.....	5	3	1		1
" " " " for hyperemesis gravidarum.....	1		1		
" " " " " retroflexed gravid uterus.....	1	1			

OPERATIONS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Myomectomies, abdominal—Continued—					
Myomectomies, abdominal	5	5			
" " with appendectomy	1	1			
" " " hemorrhoid operation	1	1			
" vaginal (excision of polyp)	3	3			
" " (by morcellation)	1		1		
Oophorectomies, unilateral	2	2			
" " with appendectomy	1	1			
" " " " and curettage	1	1			
" bilateral " partial salpingectomy	1	1			
" bilateral	1	1			
Perineorrhaphy with anterior colporrhaphy	1	1			
" " " " Schroeder's operation, and (plastic on tubes) partial salpingectomy bilateral	1	1			
" " anterior colporrhaphy and trachelorrhaphy	1	1			
" " curettage	2	2			
" " " and colporrhaphy	1	1			
" " " " " and amputation of cervix	1	1			
" " " colporrhaphy and excision of venerical wart	1	1			
" " " (hemorrhoids, trachelorrhaphy and urethral advancement) and hemorrhoid operation	1	1			
Perineorrhaphy with curettage and Schroeder's operation	4	4			
" " " Schroeder's operation and colporrhaphy	1	1			
" " " Schroeder's operation and hemorrhoids	1	1			
" " excision of caruncle and hemorrhoid operation	1	1			

OPERATIONS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Perineorrhaphy with curettage—Continued.					
" " curettage, trachelorrhaphy and appendectomy..	1	1			
" " " trachelorrhaphy and inguinal hernia operation.....	1	1			
" " " and trachelorrhaphy	3	3			
" " " " " and excision of hypertrophic bulbi vestibulares...	1	1			
" " " trachelorrhaphy and hemorrhoid operation.....	4	4			
" " " trachelorrhaphy and Alexander's operation.....	1	1			
" " excision of lipoma and Dudley's advancement operation	1	1			
" " hemorrhoid operation.....	2	2			
" " trachelorrhaphy and nephropexy.....	1	1			
" " trachelorrhaphy and urethral advancement.....	1	1			
" " urethral advancement.....	1	1			
Periuethral glands, excision of	1	1			
Plastic on urethra.....	2	2			
Salpingectomies, unilateral abdominal.	8	7	1		
" " with appendectomy..	1	1			
" " " " and curettage.....	1	1	1		
" " " appendectomy and curettage and perineorrhaphy.....	1	1			
" " " appendectomy and secondary loparotomy for intestinal obstruction.....	1				1
" " with trachelorraphy....	1	1			
" " " ventral herniotomy.	1	1			

OPERATIONS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Salpingectomies, unilateral—Continued—					
" " vaginal	2	1	1		
" bilateral	10	10			
" " partial	1	1			
" " with appendectomy	2	2			
" " " appendectomy and curettage	1	1			
" " " appendectomy and oophorectomy unilateral	1	1			
" " " curettage	1	1			
Salpingo-oophorectomy unilateral	1	1			
" " " with appendectomy and curettage	1	1			
" " " with appendectomy and curettage and excision of intraligamentous cyst.	2	1			1
" " " with appendectomy, oophorectomy, unilateral, curettage trachelorrhaphy drainage of pelvic and excision of Bartholinian abscess	1	1			
" " " with appendectomy, curettage trachelorrhaphy and perineorrhaphy	2	2			
" " " with curettage.	1	1			
" " " with excision of abdominal sinus	1	1			

OPERATIONS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Salpingo-oophorectomy unilateral—Continued—					
" " " with excision of cyst of broad ligament	2	2			
" " " with oophorectomy	2	2			
" " " with oophorectomy curettage and drainage of pelvic abscess.	1	1			
" " with salpingectomy, excision of intraligamentous cyst and amputation of cervix	1	1			
" " unilateral with salpingectomy and partial oophorectomy	1	1			
" " unilateral with ventral herniotomy	1	1			
" " bilateral	1	1			
Schroeder's operation	6	6			
" " with curettage	1	1			
Trachelorrhaphy	1		1		
" with curettage	4	4			
" " " and Dudley's operation for anteflexion.	1	1			
" " curettage and hemorrhoid operation	1	1			
" " curettage and urethral advancement	2	2			
" " dilatation of sphincter	1	1			
Tent insertion	2	2			
Vaginal section for drainage of malignant tumor	1				1
" " " " " pyosolpinx bilateral	2	1			1
" " " ectopic gestation	3	2			1
" " " hematocele with curettage	1		1		
" cystotomy for drainage	3		3		
Mortality 2.96%					

Summary of Most Important Operations.

OPERATIONS.	Patients.		Results.		
	Admitted.	Recovered.	Improved.	Unimproved.	Died.
Abscess pelvic, incision and drainage of	21	15	5		1
Appendectomy	41	41			
Colporrhaphy	8	8			
Curettage	111	103	4	3	1
Excision of infected Bartholinian glands	7	7			
Exploratory laparotomy	8	7			1
Hemorrhoids, operations for	19	19			
Hysterectomy abdominal	25	22	3		0
" vaginal	1				1
Hysteromyomectomy	11			1	
Hysterorrhophy abdominal	20	20			
" vaginal	4	4			
Manual reposition of uterus	7	4	2		1
Myomectomy, abdominal	7	7			
" vaginal	4	4			
Oophorectomy	12	12			
Perineorrhaphy	52	52			
Resection of ovary	2	2			
Salpingectomy, unilateral abdominal	18	15	2		1
" " vaginal	2	2			
" bilateral abdominal	17	17			
Salpingo-oöphorectomy—unilateral abdominal	27	27			
" " bilateral abdominal	2	2			
Schroeder's operation	14	14			
Trachelorrhaphy	39	38	1		

DEPARTMENT OF OBSTETRICS.

CARL S. OWEN, M. D., House Obstetrician.

Patients remaining Oct. 1, 1904, women	7	
" " " " " babies	6	
		13
Patients admitted during year, women	114	
Births, male	61	
" female	54	
		229
		24
Patients discharged, women	118	
" " babies	107	
" died "	2	
Still births	9	
Patients remaining Oct. 1, 1905, women	3	
" " " " " babies	3	
		242
Mortality, mothers	none	
Mortality, babies	.02	

CAUSE OF DEATH OF BABIES.

Anencephalus	1
Compression of cord by true knot	1
Craniotomy for labor in flat pelvis	1
Mal-nutrition	1
Premature birth	5
Spina bifida	1
Syphilis neonatorum	1

OPERATIONS.

Caesarian section	1
Curettage and perineorrhophy	1
Craniotomy	1
Digital dilatation, version and extraction	1
Episiotomy	1
Forceps, low	9
" high	2
Version and extraction	1
Version	1

PRESENTATIONS.

CEPHALIC			
L. O. A.		74	
R. O. A.		29	
Persistent	R. O. P.	2	
"	L. O. P.	4	
"	R. O. Transverse	1	(110)
			110
BREECH			
R. S. P.		1	
R. S. A.		1	
L. S. A.		2	
			4
TRANSVERSE		1	
			1
			115
Twin presentations included in above			2

DEPARTMENT OF OPHTHALMOLOGY.

CHARLES A. WARHANIK, M. D., House Surgeon, Second Division.

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Eye:—						
Conjunctivitis, acute catarrhal	3	2	4	1		
" purulent	2			2		
" phlyctenular		1		1		
" traumatic	12		1	10	1	
Trachoma	1	2		3		
Wound of conjunctiva	1	1	2			
Pterygium	2	1	2		*1	
Keratitis, ulcerative	15	8	19	4		
" interstitial	1	3	3	1		
" non ulcerative	2	2	2	2		
Injury to cornea	7		4	3		
Staphyloma, anterior	2	1	3			
Episcleritis	2		2			
Choroiditis	1	3		4		
Uveitis	3		2	1		
Iritis	18	6	17	7		
Cyclitis, traumatic	1			1		
Irido—cyclitis	2	1	2	1		
Synechia, anterior	1			1		
Prolapse of iris	1		1			
Glaucoma	6	6	5	7		
" hemorrhagic	1		1			
Hyphemia	2			2		
Papillitis	2	1		3		
Optic Atrophy	2	1	1	2		
Retinitis, simple	1	2		3		
" syphilitic	2			2		
" hemorrhagic	1			1		
Detachment of retina	1	1		2		
Chorio—retinitis	4	4	1	7		
Dislocation of lens		1		1		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Eye :—Continued—						
Cataract, senile	4	15	18	1		
" secondary	6	2	8			
" traumatic	10		5	5		
" congenital	2	4	6			
Hyalitis	1	2		3		1
Panophthalmitis	5	1	5			‡1
Penetrating wound of eyeball	13		9	4		
Rupture of eyeball	9	1	4	6		
Contusion of "	5			5		
Burns of eye	4		4			
Sympathetic irritation	2		2			
Foreign body in conjunctiva or cornea	59	3	60	2		
Steel, perforating eyeball	15		8	7		
Amblyopia, toxic	2			2		
High myopia	1			1		
Strabismus, convergent	9	3	8	3	*1	
Suppurating stump of eye		1	1			
Obstruction of nasal duct	1	2	3			
Purulent dacryo—cystitis		1	1			
Hordeolum		2	2			
Ptosis		2	1		*1	
Entropion		4	4			
Ectropion		2	1	1		
Ulcer of lid	1			1		
Abscess of lid		1	1			
Melano-sarcoma of lid		1	1			
" " " orbit and eyeball	1	1	1	1		
Trichiasis		2		2		
Imperfect orbit	1			1		
Periorbital cellulitis		1	1			
Total	250	98	226	117	4	2

* No operation

‡ Died from intercurrent disease.

OPERATIONS.

Iridectomy	25
Cataract needling	25
Cataract extraction	18
Operation for high myopia	1
Eyeball enucleation	20
Evisceration of eyeball	1
Enucleation and evisceration	1
Sclerotomy	2
Suturing wound of eyeball	1
Excision of prolapsed iris	1
deWecker's operation	2
Operation for ptosis	1
Tenotomy	4
Advancement	8
Cauterization of corneal ulcer	1
Operation for hypopyon	1
Removal of pterygium	2
Extraction of foreign body from cornea and conjunctiva	46
Steel removed by Haab electro-magnet	19
Plastic for ectropion	4
" " entropion and districhiasis	5
" " blepharophimosis	1
" " imperfect orbit	1
" " suppurating stump of eye	1
Tarsectomy	1
Destruction of cilia	1
Removal of sarcoma of lid	1
Incision and drainage of abscess of lid	1
Probing nasal duct	1
Total	196

NOTE:—17 eye patients treated by pilocarpine sweats.

DEPARTMENT OF OTOLOGY.

CHARLES A. WARHANIK, M. D., House Surgeon, Second Division.

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Ear:—						
Otitis media, acute	4	1	2	3		
" " " double		2	1	1		
" " chronic	3	4	5	2		
" " " double	2			1	1	
Mastoiditis, acute	6	3	9			
" chronic	5	2	6	1		
Mastoid sclerosis		1	1			
Papilloma of middle ear		1	1			
Tympanic necrosis		1	1			
Granulations of middle ear	1			1		
Exostosis, external auditory meatus	1		1			
Exposed bone of meatus following mastoid operation	1		1			
Total	23	15	28	9	1	

OPERATIONS.

Radical mastoid	12
Operation for mastoid abscess	10
Skin graft, middle ear	1
Skin graft of meatus	1
Ossiculectomy	1
Paracentesis of membrana tympani	1
Removal of exostosis of meatus	1
Total	27

DEPARTMENT OF LARYNGOLOGY AND RHINOLOGY.

CHARLES A. WARHANIK, House Surgeon, Second Division.

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Cured.	Improved.	Unimproved.	Died.
Adenoid vegetations	7	11	17		*1	
Hypertrophied tonsils	5	8	13			
Adenoids and tonsils	12	13	25			
Tonsillitis	2	2	2	1	1	
Tonsillar and peritonsillar abscess	1	1	1	1		
Empyema of Antrum of Highmore	1	5	2	4		
" " frontal sinuses	2	1	2	1		
" " " " with suppurative ethmoiditis.	1		1			
Chronic purulent rhinitis		1		1		
Hypertrophied turbinates	5	9	13		*1	
Deflected septum	6	2	6	2		
Nasal spur	4	1	5			
Nasal polyp	1	1	2			
Adhesions of nasal septum,—post operative	2			2		
Secondary hemorrhage from nose, post "	2		2			
Total	51	55	91	12	3	

Mortality—none.

* No operation.

OPERATIONS.

Adenectomy	42
Tonsillotomy	38
Drainage of tonsillar and peritonsillar abscess	2
Curettement and drainage of frontal sinus	3
" " " " antrum	6
Turbinectomy	12
Removal of nasal polyp	2
Operation for nasal spur	5
Correction of deflected septum	5
Asch operation	1
Dissection of synechia	2
Total	118

DEPARTMENT OF ORAL SURGERY.

CHARLES A. WARHANIK, M. D., House Surgeon, Second Division.

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Cleft palate	2		2			
Hare lip	2	2	2		*2	
Cleft palate and hare lip		1	1			
Empyema of antrum of Highmore	1	3	3	1		
Alveolar abscess	2		1	1		
Abscess of tooth		1	1			
Dentigerous cyst		2	1	1		
Naso-oral sinus		1	1			
Misplaced tooth	1		1			
Total	8	10	13	3	2	

* No operation.

Mortality—none.

OPERATIONS.

Staphylorrhaphy	2
Plastic onhare lip	3
Curettement and drainage of Antrumof Highmore	4
Curettement of alveolar abscess	2
Removal of cystic tumor of jaw	2
Extraction of encysted teeth	2
Repair of naso-oral sinus	1
Total	16

DEPARTMENT OF ORTHOPEDIC SURGERY.

CHARLES A. WARHANIK, House Surgeon, Second Division.

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Tubercular coxitis	5	3	2	6		
" " with contractures	3	2	3	2		
" " " abscess		2		2		
" " " sinuses		1		1		
Coxa vera		1		1		
Hip dislocation, with osteomyelitis	1			1		
" " congenital, unilateral		7	3	4		
" " " bilateral	1	2	1	2		
Genu valgum	3		2	1		
Tubercular knee	2			2		
Contractures of knee, post periarthritic.		3	3			
" " " " paralytic		1		1		
" " leg		1	1			
Osteomyelitis and sinuses of tibia	1		1			
Talipes equinus	1	1	2			
" varus	3		1	2		
" valgus		1		1		
" calcaneus	1			1		
" equino-varus	4	3	2	4	*1	
" cavus	1			1		
Pes planus	1	2	1	2		
Hallux valgus		1		1		
Hammer toe		2	2			
Tubercular ankle, with abscess	1			1		
Spastic paraplegia	2	2		4		
Atrophy of lower extremity, post traumatic	1				1	
Osteo arthritis and contractures of extremities		1		1		
Contractures of toes		2	1	1		
Congenital deformity of hand	1			1		
Ankylosis of elbow		1		1		

DIAGNOSIS.	Patients.		Results.			
	Males.	Females.	Recovered.	Improved.	Unimproved.	Died.
Orthopedic Surgery—Continued—						
Torticollis		1		1		
Tubercular Spondilitis	5	8		12	1	
" " with Psoas abscess	2	2		3		1
Total	39	50	25	60	3	1

Mortality 1.12 per cent.

* Not operated.

OPERATIONS.

Reduction of congenital dislocation of hip	7
Transposition of " " " "	2
Redressement of hip	3
Reposition of dislocated tubercular hip	1
" " " osteomyelitic hip	1
Drainage of tubercular abscess of hip	6
Injection " " " " "	1
Sinus curettement	1
Forcible correction of contractures	1
Drainage of tubercular abscess of ankle	1
Evacuation of " " " back	1
Forcible straightening of pes planus	1
" correction of talipes valgus	1
" " " clubfoot	4
Redressement of feet	3
Redressement of knee	1
Arthroplastic resection of elbow	1
Breaking up of adhesions about joint	1
Plastic on hand for congenital deformity	1
Tenotomy	24
Tendon transplantation	5
Myotomy	1
Cast applied	42
Amputation of hammer toe	2
Osteotomy	2
Osteoclasis	2
Total	116

REPORT OF LABORATORY.

THOMAS L. DAGG, M. D., Attending Pathologist.

During the year there have been received four hundred and twenty-seven specimens for histological diagnosis, which have been classified as follows:

TUMORS, Maligant:	
Sarcoma:	
Giant Cell,	2
Spindle Cell,	2
Large Round Cell,	2
Mixed Cell,	2
Myeloid,	1
Melanotic,	2
Cysto-Chondro-Sarcoma,	1
Carcinoma,	
Epithelioma,	13
Glandular,	9
Medullary,	16
Scirrhus,	2
Endothelioma,	13
Hyper-nephroma,	1
Syncytioma,	1
TUMORS, Benign	
Myoma,	11
Fibro-Myoma,	9
Fibroma,	15
Endocervicitis,	4
Leiomyoma,	1
Xanthoma,	1
Papillo-Cystoma,	3
Papilloma,	7
Hydrocele of Broad Ligament,	2
Lipoma,	2
Hemorrhagic Glaucoma,	1
Angioma,	1
Osteoma,	1
Fibro-Adenoma,	6
Myxoma,	1

Actinomycosis,	1
Galactocele,	2
Sebaceous Cyst,	1
Polypoid Adenoma,	6
Osteo-Myelitis,	6
Dermoid,	3
Multilocular Cyst,	2
Cholecystitis,	10
Goitre,	
Colloid,	5
Parenchymatous,	1
Syphilitic Stricture,	1
Cystic Ovary,	13
Neuroma,	2
Panophthalmitis,	3
Ectopic Pregnancy,	2
Inflammatory Hyperplasias,	51
ENDOMETRITIS (Curettment)	
Glandular,	18
Diffuse,	23
Decidual,	11
Infections,	11
Purulent,	1
Maligant,	1
Henorrhagic,	1
Senile,	1
Interstitial,	1
SALPINGITIS,	
Purulent,	18
Chronic	12
Interstitial,	1
TUBERCULOSIS,	
Fistulae,	3
Glandular,	14
Osseous,	10
Abscess,	3
Soft Tissues,	7
APPENDICITIS,	
Acute Catarrhal,	28
Chronic Recurrent,	15
Perforating,	3
Purulent,	3
Gangrenous,	8
Tubercular,	1
AUTOPSIES,	10
BACTERIOLOGY, CHEMICAL ANALYSIS, AND URINALYSIS.	
Smears for Bacteriological Examination	1,024
Cultures for Bacterial Growth	265

Blood Examinations.	
Leucocyte Count,	2,327
Red Cell Count,	573
Differental count,	46
Haemaglobin determinations,	592
Blood cultures,	52
Widal Tests,	124
Malaria Examinations	28
Stomach contents examined	45
Faeces,	65
Urinalysis,	
Single specimens,	3,775
24 hour Specimens,	1,590
Quantitive Sugar determinations,	76
Quantitive Albumen determinations,	210
Quantitive Chlorides,	39
Milk Examinations,	21

Summary.

	1904	1905
Pathological Specimens,	303	427
Bacteriological examinations	873	1,289
Blood examinations,	2,143	3,742
Urinalysis,	3,261	5,365

HYPERNEPHROMA:

A Histological Study.

T. L. DAGG, M. D.

It might be well, first, to give a short clinical history of this case, which occurred in the service of Dr. A. E. Halstead, of St. Luke's Hospital, and also a synopsis of the gross findings post mortem, which was made by Dr. Le Count of Rush Medical College.

The patient L. P., male, age 56, Swede, single, and a janitor by occupation. He has not been feeling well for the past three or four months; but the tumor mass in the abdomen was first felt by him only about twenty days ago. He has had pain down the left leg for the past three months, and six weeks ago he had a bloody urine for three or four days, and had to be catherterized at that time, but has had none since, and passes his urine freely now. He has lost weight for the last four months; but more rapidly in the last five weeks, during which time he has lost twenty-five pounds. He sleeps poorly, and has loss of appetite. He is constipated; he suffers pain; (temperature 98.6-100.5 pulse 100–120). He had typhoid fever twelve years ago, and "lung trouble" thirty-four years ago, and was told he had only one sound lung. His personal history and family history are otherwise negative.

Physical Findings. The tumor mass entirely fills the left abdominal cavity from costal arch down to the iliac fossa, and at umbilicus it reaches past the median line. It is firm, does not fluctuate, and contains large nodules, and is posterior to the transverse colon. Examination of the urine showed granular and hyaline casts, and some blood. Segregated specimens from each kidney were found to be almost identical. This, however, is without value, as the post mortem findings showed entire absence of kidney

structure on the diseased side, and it is very doubtful if any urine were being secreted by it.

Extract from the post mortem findings of Dr. Le Count:

"The tumor involves the whole of the left kidney, and adrenal, extending into the spleen, colon, diaphragm, muscles of the back, opposite the tumor growth, and an ingrowth into the pancreas. There are no remains of kidney tissue found in the tumor mass. The latter weighs 3,850 grams. It is 30 C. M. in length, 18 C. M. in width, and 11 C. M. in depth. The upper pole is the larger, and has nodules on external surface the size of hens eggs.

There is hypertrophy of the right kidney, and of the heart. Metastatic growths in both lungs. Hydrothorax, Hemorrhagic, Ascites, localized fibrous pleuritis on right side. A Chylous mesenteric Cist; a colloid goitre."

The microscopic examination of the tumor presents a variety of findings, both as to cell structure and inter-cellular substance, which is rarely found in any other class of tumor. And it seems to be due more to this fact than to anything else that undoubted cases of this nature have been classified by some investigators along with the epithelial tumors, and again by others as sarcomata. Kelynack, in speaking of the origin of these tumors, supports Grawitz theory that they originate in adrenal "rests" or aberrant adrenal tissue. According to this writer, adrenal inclusions have been found in periadrenal fat, in tissues near to the solar plexus., in the mesentery, in the broad ligaments adjoining the ovaries, and within the kidney. And Targett has also described a case of multiple adrenal bodies in the broad ligaments of a foetal uterus. And as to their classification he says that although they may, for convenience, be placed in the large class of adenomatons forms of renal growth, it is clearly to be remembered that the cells of the suprarenal, although morphologically epithelial, are strictly of mesablastic origin; and growths arising in adrenal "rests" appear to be sarcomatous in general character rather than carcinomatous. Schmieden, by experimental work on animals, has demonstrated the possibility of an adrenal growth occurring in

the kidney by transplanting a portion of the gland into the latter, and there, while not producing a progressive growth, the cells live, but change in their character, due to a loss of their function, which follows as a result of the transplanting. This change in the character of the cell, according to his description, is a change to the refractile, fat-like cell described in hypernephroma. That the tumor in this case has had its origin in adrenal tissue is supported by the following facts:

Sections from the tumor show areas where cells correspond in form and arrangement to the cortical portion of the adrenal; the presence of fat droplets in the cells.

The large nucleus with metachromatic nucleoli—a condition never seen in renal epithelium or true renal adenomas; but in adrenal "rests" or in the cells of the adrenal cortex.

The absence of any transition between tumor and renal tissue; existence of an abundant capillary net-work, such as is seen in the cortex of the adrenal. It also gives the chemical reaction of adrenal tissue according to Crofton's starch iodine decolorization test as applied to hypernephroma. The technique for this test is as follows:

"Make an extract by taking 20 grams of the tumor to 100cc of distilled water, and rubbing it up to a fine pulp. A portion of this is added to a number of test tubes of 1 per cent. starch solutions, to which a drop of weak Tr. Iodine is added. Use other test tubes of starch and iodine solution with no extract for control. The test tube containing extract, on addition of the iodine, turns blue, then gradually changes to a pink, then colorless: While the other test tubes with no extract remain blue." Caution must be had in the use of the Tr. Iodine, as adding too much or too strong a solution will prevent the decolorization process. This is a very pretty end reaction, and according to the author, is characteristic of adrenal tissue.

As to the histological structure of the tumor, the predominating feature seems to be in the area of large fat-like cells, refractive, clear, and with a sharp outline, round, oval, polygonal, or distorted, apparently by pressure

effects. The nucleus is large, stains well, is eccentrically placed, and contains the metachromatic nucleoli. Some areas show these cells in small groups surrounded by a connective tissue stroma, fine trabeculæ, from which extend in among the cells, dividing them up into still smaller groups of from three to twenty or more cells The connective tissue ground work in some places is very hyaline in appearance, in others it is well developed, with well stained nuclei, and its fibrous structure easily made out. These cells, with the stroma arranged in this way, give to it an alveolar appearance, and it is this structure which predominates throughout the tumor. The stroma, in places, is rich in capillaries, the endothelium of the vessel wall being unusually rich in nuclei, and the tumor cells lie in close contact. Other areas of the stroma show hemorrhagic infiltration from bursting of the vessel wall; the latter in these areas being of larger calibre than capillaries, but still possessing only an endothelial lining, and not the outer coats of a well formed blood vessel. Blood spaces, too, are frequent here, while arteries or well formed vessels are rare. Another characteristic feature here is that the richest blood supply is always at the periphery of the tumor, as shown by the immense number of congested capillaries, vessels, and blood spaces in tissues which are about to be invaded by the tumor cells. This is well illustrated in the metastatic growth in the lung, and also in sections from the newly formed growth under the operative wound between the tumor mass and the abdominal wall.

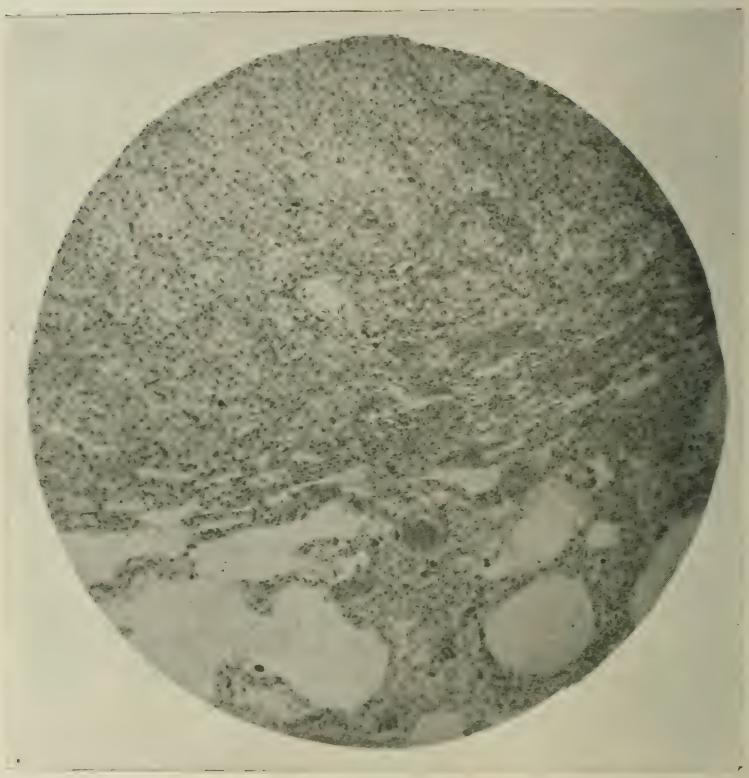

FIGURE 1.

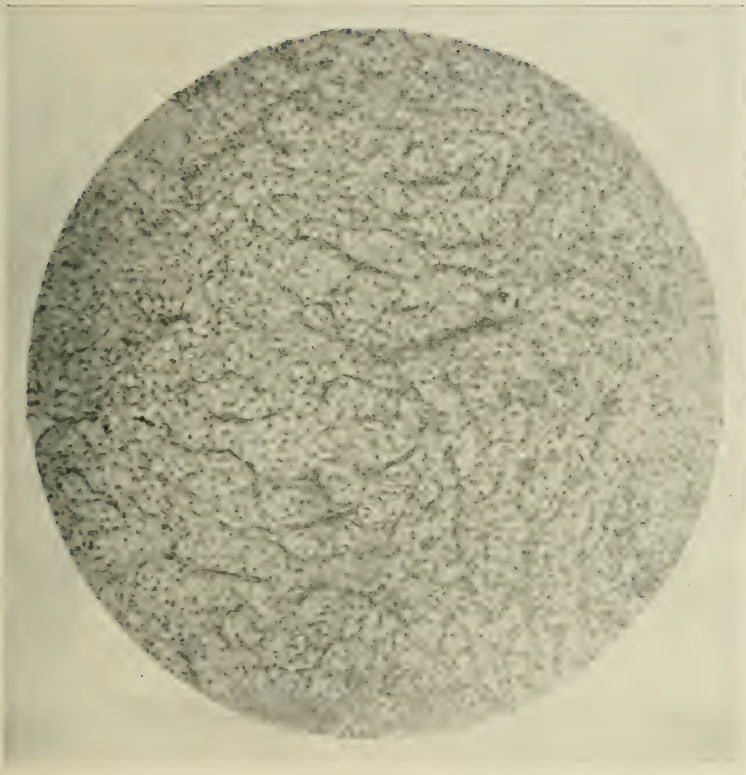

FIGURE 2.

Fig. 1 shows a section from the lung, and the border of the invading tumor growth, abundantly supplied with small congested capillaries.

Fig. 2 is a section from the tumor mass and shows well the alveolar arrangement. Other sections show extensive deposits of blood pigment; always in the stroma, not connected with the areas of hemorrhagic infiltration; is extra cellular, and found between the fibrils of connective tissue. While this is true of the periphery, sections away from the tumor surface show absolute necrosis, or areas of different degrees of degeneration.

This is contrary to the observations made in Dr. Eurich's case, and quoted by Kelynack, who says that the sinuses and blood channels attain their maximum development towards the centre of the growth. That the characteristic cell of the tumor is the large refractive fat-like cell described above is also well shown in the lung metastasis where this cell seems to be the sole factor. Other areas simulate the adrenal cortical tissue in their tubular arrangement, in which the nuclei stain deeply and the protoplasm is not clear and refractile, but stains more or less lightly with the easin and is granular. The nuclei however seems larger than the cortical cells of the normal adrenal. In this arrangement of the cells there can be made out a thin septum of connective tissue lined on both sides with a layer of these large faintly staining cells with large nuclei. Well developed giant cells are present in some sections containing two, three or more small round well stained nuclei. I have not observed any mitoses. There is also considerable round cell infiltration to be seen principally in the stroma and surrounding blood vessels.

Metastases in this case were found in the lungs in the form of bean-size round nodules of firm consistency, and a grayish appearance. The retroperitoneal lymph glands were also enlarged and dark in appearance, but sections of them showed only a hyperplasia from inflammation, and not a metastasis from tumor growth. Metastasis in lymph nodes do occur however as shown in Clairmont's case, and reported in the proceedings of the German Surgical Congress for 1905. In this case the metastasis occurred in the glands at bifurcation of the trachea, where an egg sized tumor was found, and which had broken into both bronchi, completely closing the right one. The patient had been operated upon ten years previously for kidney tumor, and the kidney was removed. After a lapse of ten years this growth occurred in the bronchi, and proved histologically to be a hypernephroma. And the author concludes that as the pluera had been opened in the operation for nephrotomy ten years previously it became infected with the tumor cells, which

were absorbed and carried by the lymphatics, and deposited in the bronchial glands at site of the new growth where they slowly developed into a tumor, and proved fatal.

But owing to the close contact of the tumor cells to the blood vessels, and to the non-development of the vessel wall in the tumor mass, in this way simulating very closely the sarcomatous growths, it would seem more rational to suspect metastasis occurring by the blood stream rather than by the lymphatics.

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THE REMOVAL OF SMALL FOREIGN BODIES FROM THE CORNEA, CONJUNCTIVA, ETC.

By FRANK ALLPORT, M. D., Chicago, Ill.

A Lecture Delivered at St. Luke's Hospital in October, 1905.

GENTLEMEN:

The various injuries to the eye, from those of a slight character to those involving grave issues and responsibilities will frequently cross your pathways as practicing physicians Such injuries you should be competent to treat, and this lecture is undertaken with the purpose of endeavoring to enable you to care for some of the simplest and most common accidents that occur from day to day, and which will sometimes make you realize that all great fires originate in small initial sparks.

One of the simplest accidents that you will be called upon to care for is the presence in the eye of cinders, dust, dirt, etc., usually being lodged there by exposure to wind. Most of such foreign bodies will be found on the surface of the conjunctiva of either the upper or lower lid, from whence they can be easily removed. A favorite resting place for such intruders is the under surface of the upper lid, just about the middle of the tarsal cartilage, and is readily brought into view by simply everting or turning over the upper lid in order to inspect its conjunctival surface. A convenient instrument for the removal of such intruders is a cotton applicator, or even a match or wooden toothpick, upon which a very little cotton can be twisted and then moistened, preferably in some mild antiseptic solution. Eyelashes frequently become detached and lodge somewhere in the conjunctival sac, from which they can be easily removed as just indicated. Very rarely a lash will find its way into one of the puncta or lacrymal canals (prefer-

ably the lower one) and present itself sticking out through the little orifice, in which location it will be easily overlooked unless a routine and systematic examination is made in every case, it can of course, be easily removed with a pair of forceps.

A foreign body may stick and lodge in the scleral conjunctiva, or usually the cornea, under which circumstances its removal becomes a matter of much greater importance. The removal of foreign bodies from the cornea is a little operation of extreme delicacy, and one that should never be performed thoughtlessly. It should always be remembered that while the epithelial shell of the cornea is strong and protecting in its character, yet once this membrane is perforated, even slightly, the underlying laminae become most easily infected by contact with poisonous micro-organisms. It is highly important, therefore, that cinders, emery, sand, etc., that have become lodged in the corner should be removed with speed, before the underlying and surrounding tissues have become ulcerated, and with care, that infection may not be produced by the surgeon himself.

It is first necessary to be sure of the existence of the foreign body, and this is sometimes not easily determined, as the intruder may be exceedingly small or of such a color as to be hard to discover. The cornea should be examined by a strong light, either natural or artificial, and a powerful convex lens is essential to a careful inspection. In case a foreign body is not seen another convex lens should be used to focus the light on the cornea while the surface is carefully inspected under the other magnifying glass. For still further careful examination a drop of a two per cent. solution of fluorescine may be dropped on the cornea, which will disclose the existence of rough or ulcerated places by retaining the color of the solution after the residue of the drop has been flushed or wiped away. It may be necessary to have the patient move the eye in all possible directions, so that the foreign body is brought into just the light which will disclose its presence, and care should be taken

not to confuse pigment spots in the iris for objects imbedded in the cornea. This can be done by examining the cornea in profile under strong illumination and a magnifying glass. The fluorescine solution is also an excellent method of detecting the presence and extent of abraded or ulcerated corneal patches, as it stains all denuded surfaces and does not stain intact corneal tissue. By thus defining the abraded areas, small patches may not only be discovered, but as the diseased surface is clearly defined, it can be easily kept under observation for treatment, cauterization, etc.

After the presence of a foreign body in the cornea has been established steps must be taken for its removal, and let no one underestimate the importance of this little and oft-repeated surgical procedure, for many an eye has been lost as a consequence of improper and unclean methods. A large proportion of such accidents occur in shops where flying particles of steel, emery etc., find easy lodgement in the eyes of the workmen. In most shops will be found a man who has acquired a reputation for skill in the removal of foreign bodies from the eye, and who has always on hand a rough tool or two which he uses for such work. No attempt is made at aseptic precautions, and it is astonishing how many eyes survive such dirty and rough procedures; this wonderment is emphasized when these eyes are afterward seen by the surgeon and the amount of corneal abrasion is noted. The eyes of workmen are often invaded by foreign bodies, which are removed in this manner by the "Shop Oculist," and the result of such poor work can frequently be seen in multiple corneal scars, which inevitably diminish vision more and more in direct ratio with the number and extent of the scars. I saw, not long ago, a man who lost the vision of one eye by submitting to such procedures by a fellow workman, who was suffering from gonorrhoea, and have seen many eyes that have been lost from infections produced by the removal of foreign bodies from eyes under unclean and unfortunate conditions.

The first thing, then, to be observed in such work is

cleanliness, not to say asepsis. The hands of the surgeon should be clean and the skin around the eye should be washed, the conjunctiva should be flushed with sterile water, or better still, with mild boric or bi-chloride solution, and I usually drop in the eye before and after the little operation a small quantity of a 25 per cent. solution of argyrol. The eye should be cocainized so that the intruder may be removed painlessly, and what is of even greater importance so that the patient can hold his eyes still, for a cornea will become greatly scratched and mutilated if an attempt is made to remove a foreign body from its tissues without the use of local anaesthesia.

The simplest instrument for the removal of corneal foreign bodies is a small cotton carrier, a wooden toothpick or a slender match, upon which a very little cotton has been tightly twisted, and which is then dipped into some rather strong antiseptic solution. Many cinders, specks, etc., can be removed by this means, if they are not very firmly buried in the tissues of the cornea, and an instrument of this kind produces less damage than any with which I am familiar, it being remembered that all such removals should be made under ample illumination and by the aid of a strong convex lens. In case, however, the foreign body is so deeply imbedded that such simple appliances prove ineffectual, the surgeon may use a slender instrument called a spud, or what I prefer, a Graefe's cataract knife for the removal. The ordinary spud is—for my purpose at least—too blunt and clumsy in the point to get under and shell out the average foreign body, and I have ascertained by experience that this can be better accomplished by the sharp and delicately pointed Graefe's cataract knife. Either instrument should, of course, be carefully cleansed, dipped in a 95 per cent. solution of carbolic acid and wiped before it is used, and care should be taken not to scratch or mutilate the cornea any more than is positively necessary. Caution should also be exercised that the head and eye of the patient is kept quiet and that the knife does not penetrate the cornea, as might easily happen

should a sudden head or eye movement occur. Ample illumination and a magnifying glass are essential to accurate work, the best light being good daylight, and the patient should sit in a chair, with the head resting on a headrest, or the body of the surgeon who should stand behind the patient. Most foreign bodies can be easily removed in this way, but some will be so deeply imbedded as to be removable only with considerable skill and patience, and some will break up into smaller particles before the last remnants have disappeared. It happens with extreme rarity that a foreign body becomes so deeply lodged in the cornea that efforts for its removal will force it completely through the corneal tissues into the anterior chamber and such rare accidents are usually the result of bungling manoeuvers on the part of the surgeon, and it should be borne in mind that in case a foreign body has nearly disappeared through the cornea and into the anterior chamber, that before an attempt is made at its removal a broad Graefe's cataract knife should be plunged through the cornea, and under the foreign body for the purpose of forming a support to prevent its slipping through into the anterior chamber. Of course, problems like these are materially mitigated if the foreign body is steel or iron, for under these circumstances the Haab or Hirschberg magnet will usually extract them without difficulty. It oftens happens that cinders, emery and other hot particles will actually burn themselves into the corneal tissues, and leave a brownish eschar after the foreign body has been removed. Many patients and even surgeons who see this brown speck are convinced that it is a foreign body to which, indeed, it bears a close resemblance, but a careful examination under a magnifying glass will disclose its identity. It is best to remove such eschars by lifting them out with the small knife, and then to cauterize the underlying tissue with carbolic acid, although many surgeons allow the little eschar to drop off without interference, which as a rule will produce a good result. In many cases, however, the eschar acts as a foreign body, and produces much irritation, and

sometimes ulceration, for which reasons I habitually remove them.

It sometimes happens that fragments of glass will lodge in the cornea or other portions of the eye producing a clean incised wound, with flaps which are often very much cut under. Such foreign bodies are often very difficult to see on account of their transparency, and should be searched for under strong illumination and at many angles where suspicion of their existence obtains. Fortunately, glass fragments do not often remain in the eye, even if the eye has been struck by them, and I can truthfully say that while I have searched for glass projectiles many times, I have very seldom found them.

It is, of course, quite impossible to enumerate the infinite variety of foreign bodies that may attack the eye and remain lodged in some portion of the cornea or conjunctiva, but the descriptions already given of the usual clinical picture presented in the case of such ordinary bodies as cinders, emery, steel fragments, etc., will perhaps serve as sufficient exposition of their appearance and history to cover that of unmentioned flying particles. Perhaps, also, sufficient stress has been laid upon the proper methods which should be adopted for their removal, but their remains to be considered a general but brief description of the suitable therapeutic measures which may be utilized for the elimination of infection, the reduction of inflammation and the healing of the wound with as little cicatrical opacity as possible, and this phase of the subject resolves itself into a consideration of minor corneal injuries, as minor cojunctival traumas are of infinitely less importance, as small scars in this tissue possess but little significance, and such small injuries are easily relieved with mild astringent and antiseptic eye washes, cold compresses, etc.

Were it not for the formation of corneal scars after injuries, traumas to the corneal tissue would not be of such keen significance, but as all opacities of this important membrane are accompanied by more or less deterioration of vision, it follows that surgeons should limit the destruction of corneal tissue as much as possible, for all such de-

nuded areas become variably opaque during and after healing has occurred. Of course, the location of such cicatrices has much to do with the degree of visual defectiveness, as scars situated directly in the center of the cornea, exactly in range of the best vision, will naturally interfere much more with seeing than if the opacity is located near the corneal periphery, in the neighborhood of the sclero-corneal junction, where the iritic curtain precludes the passage of light rays through the cornea to the receptive retina.

The essential object to be attained, therefore, in all corneal injuries, and especially those located in or near the center of the cornea is to limit the destruction of the tissue to the smallest possible area in order that vision may be interfered with as little as possible. In order that this work may be accomplished to the best advantage, it is essential that the location, character and extent of the abrasion be clearly seen and defined, and this can be best accomplished by the use of a drop of a 2 per cent. solution of fluorescine as previously described. If the abrasion is of recent origin and not ulcerative in character a mild antiseptic wash such as a 2 per cent. solution of boracic acid or a 10 per cent. solution of argyrol will probably be all that is required in the way of medication, supplemented by cold compresses and ocular rest and quiet, in order to permit of the re-establishment of new epithelium; but if the abrasion shows an infective or sloughy character, and if some ciliary injection is beginning to show itself, the eye should be cocainized, and the infective area should be cauterized with tincture of iodine, carbolic acid, or something of this nature, after which a 1 per cent. solution of atropine and a 25 per cent. solution of argyrol should be used, both at the office and the house, and the patient directed to keep quiet, and to use freely very hot water fomentations.

The best instrument for cauterizing the cornea is a small cotton applicator or toothpick upon which a very little cotton has been twisted tightly. This should be dipped in the cautery liquid, and after the corneal surface has been wiped of tears, which serve not only to dilute the cautery, but to cause its running over healthy corneal surfaces, the appli-

cator, soaked with the cautery, should be thoroughly applied to the parts, under a magnifying glass, being careful that the cotton fiber does not contain such a superfluity of liquid as to cause it to flow over healthy corneal tissue.

Sometimes these cases will not present themselves until the ulceration is very deep, the iritic inflammation very marked, with perhaps iritic adhesions between the iris and lens capsule, and pus commencing to appear in the anterior chamber. The case has now become very grave, and prompt action and hospital care should be instituted. The ulcer should be thoroughly curetted and cauterized with carbolic or nitric acid, or possibly the actual cautery; a 2 per cent. solution atropine should be dropped in the eye four, five or six times a day; a 25 per cent. solution of argyrol should be used four times a day, and very hot water fomentations used several hours a day, and a Crede ointment poultice on the eye at night has shown many remarkable results in St. Lukes Hospital. The eye should, of course, be kept clean, the bowels and kidneys open, the diet low and nourishing and the patient kept quiet in a somewhat darkened room. Great benefit is often seen from pilocarpine sweats, and the sub-conjunctival injection of a sterile salt solution, and it is well to administer large doses of the salicylate of soda. But the further prosecution of this subject opens up the vast field of general infective panophthalmitis, etc., with the usual direful consequences, and this is far beyond the scope intended in this lecture. It is hoped, however, that enough has been said to force upon your minds the fact that extreme consequences may easily proceed from the improper care of a simple case of "Cinder in the Cornea," and it is hoped that none of you will ever undertake to perform this little operation without bearing in mind its importance.

TREATMENT OF CASES OF EXTENSIVE CYSTOCELE AND UTERINE PROLAPSE.

By THOMAS J. WATKINS, M. D., and FRANK W. VAN KIRK, M. D.

FIGURE I.

FIGURE II.

These photographs (Fig. I and II) were made from recent cases which were operated by us. They are typical of many cases of these displacements which are seen after the menopause. An ulcer is shown on the posterior lip of the cervix in both the illustrations. These displacements may vary in extent from being less than those shown in the above illustrations, to being so extensive that the entire uterus

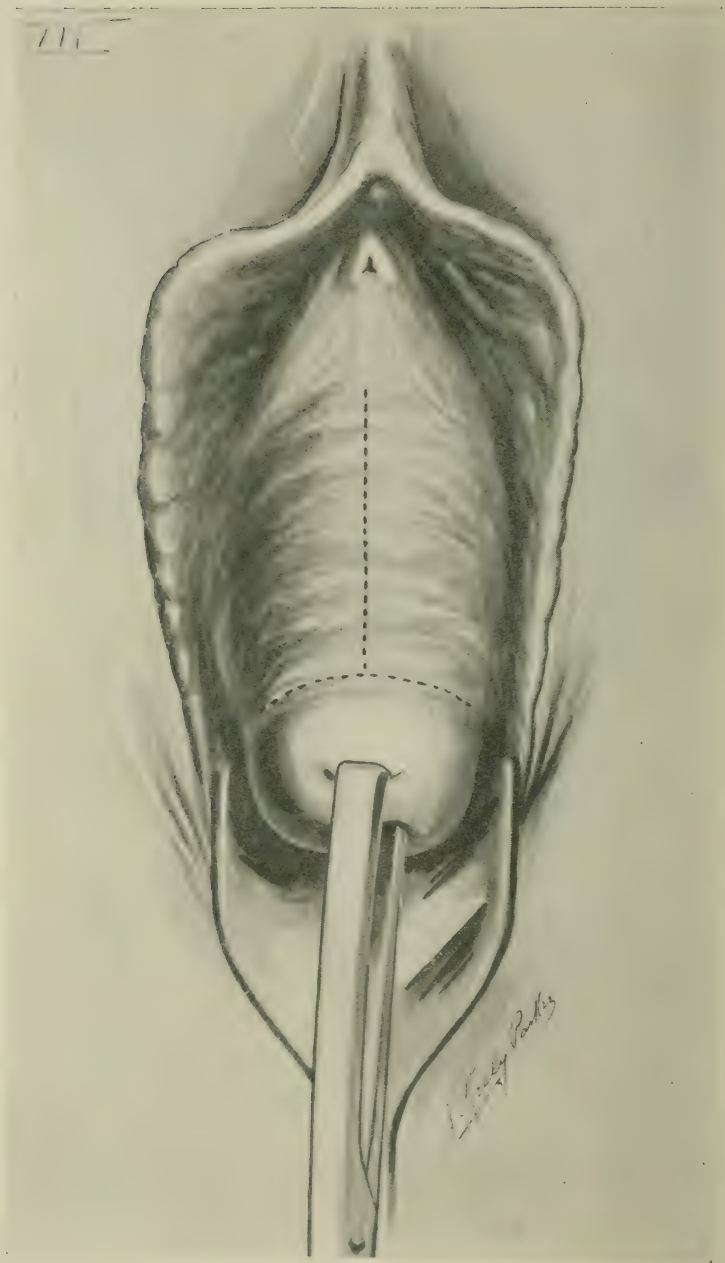

FIGURE III.

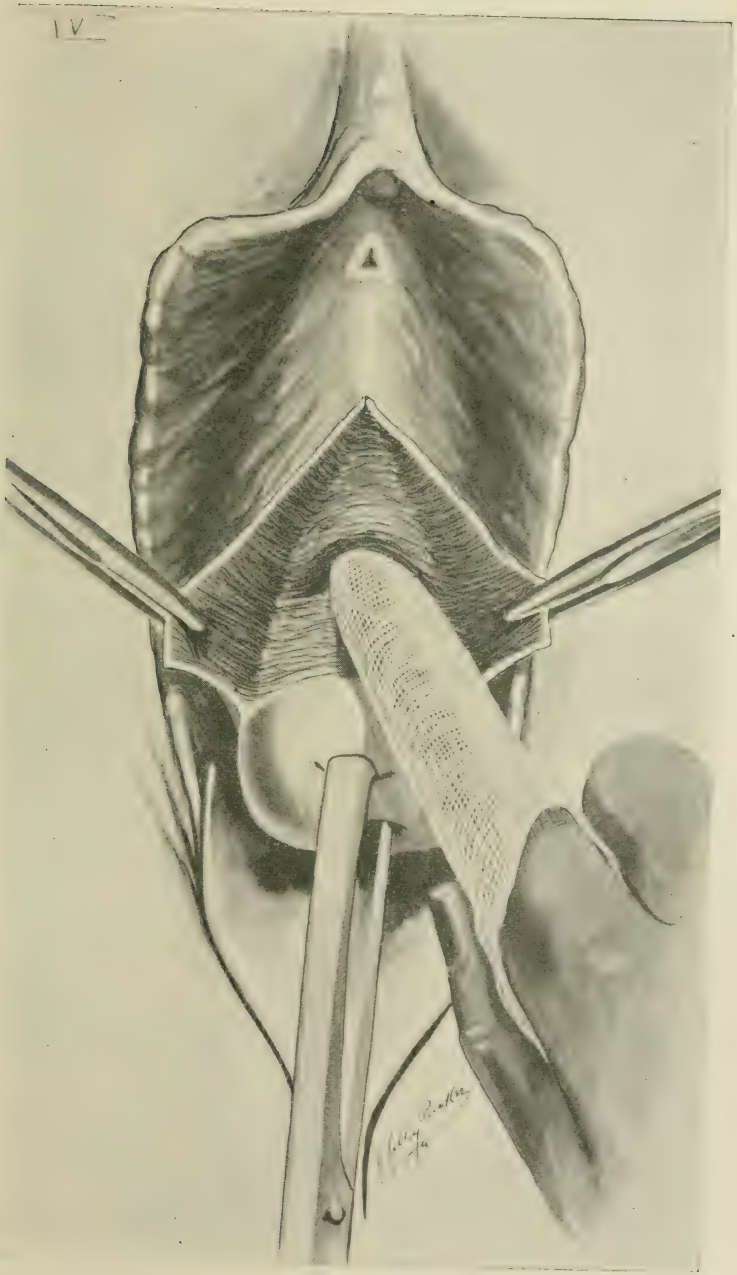

FIGURE IV.

and anterior vaginal wall may be external to the vaginal orifice.

The following operation is described as it is considered by us to be almost ideal for the relief of most cases of these displacements especially after the menopause. The results in a rather large number of cases, some of them dating back to 1898, have usually been very satisfactory.

Technique. After the usual preparation the patient is anæsthetized and placed in the lithotomy position. The uterus is dilated and curetted if indicated. The anterior lip of the cervix is grasped with the vulsella; the anterior vaginal wall is separated from the cervix by a semilunar incision and the anterior vaginal wall is incised in the median line from the cervix to within one half to one inch of the meatus urinarious, care being taken not to injure the bladder. (see Fig. III.) With the finger covered by gauze the bladder is separated from the uterus by blunt dissection, as shown in Fig. IV. After the bladder has been completely separated from the uterus the utero-vesical fold of peritoneum will be observed as a thin freely movable layer of tissue between the finger and the uterine body. The peritoneum is either perforated by the finger or is grasped with forceps and incised. The wound in the peritoneum is then stretched, with two fingers, sufficiently to allow the uterus to be delivered through the opening.

One should guard against perforating the bladder with the finger by exerting most of the pressure upon the uterus and not upon the bladder wall. In cases where difficulty is encountered in separating the bladder from the uterus the procedure can be much facilitated by making the separation to either side before it is made along the median line, as the attachment of the bladder to the uterus is firmer in the median line than at the sides. The anterior vaginal wall is now grasped on one side at the edge of the incision with an eight inch forcep and separated from the bladder wall by means of gause pressure. The same procedure is carried out on the opposite side. The extent of separation of the anterior vaginal wall from the bladder will vary in

different cases: it should extend over most of the cystocele that comes into view and should make the flaps sufficiently large to cover the uterus after it is brought into the vagina. The uterus is now delivered into the vaginal canal; this may be done by passing the finger over the fundus or over the top of one of the broad ligaments, or the fundus may be grasped with a bullet forcep. One should never attempt to grasp the anterior wall of the uterus and deliver it through the peritoneal opening, as the diameters of this segment are much greater than the diameters of the fundus. A suture is now passed through the vaginal flap near the urethra, through the body of the uterus a little posterior to the fundus, and brought out through the opposite flap, at a corresponding point, as shown in Fig. V. The placing of this suture should vary in different cases. The fundus should be drawn sufficiently downwards to support the entire prolapsed bladder wall, but care should be taken not to draw it down so firmly that it may press upon the urethra and interfere with urination. This suture is tied and another suture is passed parallel to it, as shown in the illustration. Two or three such sutures are usually sufficient as there is very little traction upon them. The remaining portion of the wound is now closed in much the same manner as a wound is closed in any part of the body, Fig. VI. It is immaterial whether one uses interrupted or a continuous suture. Chromocized catgut, we believe, is the best suturing material. When the cystocele is very large the redundant tissue of the vaginal flaps should be exercised.

The relation of the bladder to the uterus, when the operation is completed, is illustrated in Fig. VII.

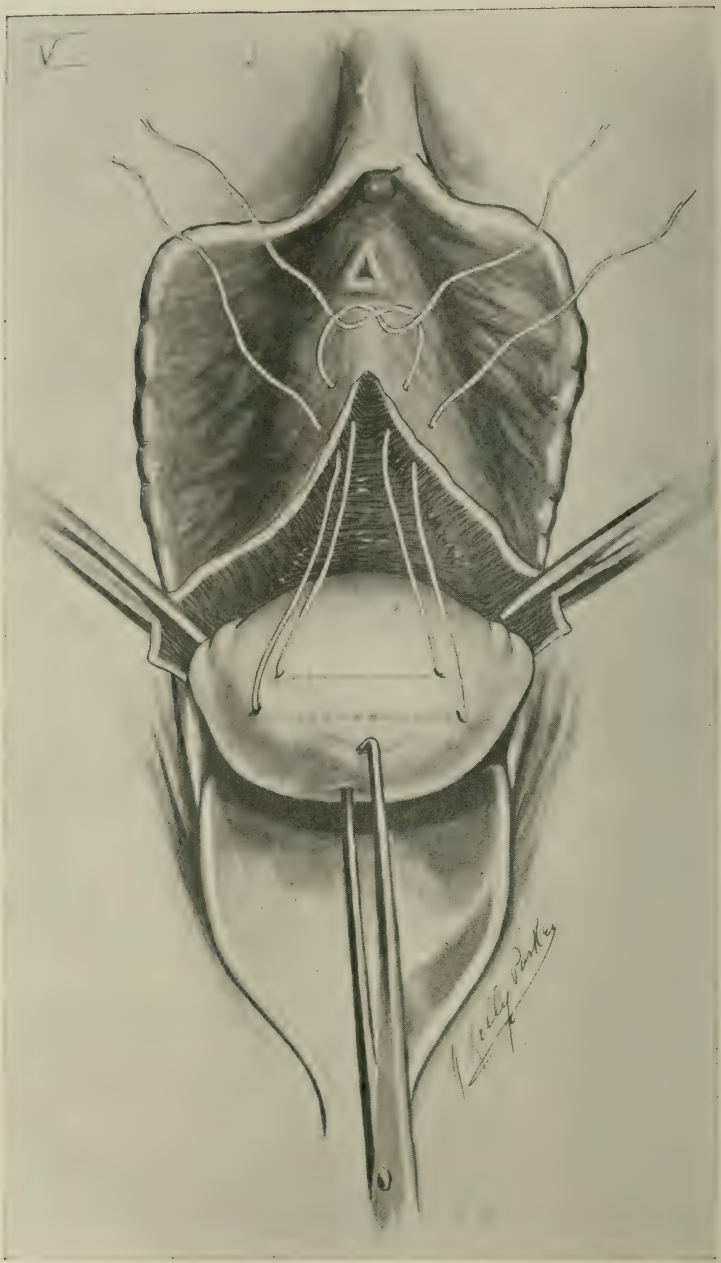

FIGURE V.

FIGURE VI.

The postorior vaginal wall is usually relaxed and is generally the site of a rectocele, and a perineorrhaphy is invariably necessary to effect a cure. The perineorrhaphy not only restores the injured posterior vaginal wall but also gives an additional support to the anterior vaginal wall. The perineorrhaphy should extend to the upper border of the levator ani muscle. This may be well accomplished by a modified Emmet or Hegar operation.

FIGURE VII.

After Treatment. The after treatment is about the same as is usually employed in most vaginal operations.

1. A sterile dressing is kept over the vulva.

2. Vaginal douches are not usually given and never without definite indications.

3. An antiseptic douche is poured over the vulva after each urination and care is taken that fecal matter does not contaminate the wound.

4. Patients are not catheterized unless it is impossible to obtain a voluntary urination; they are allowed to sit up, or even to get out of bed, if necessary, to void the urine. Over distention of the bladder should be avoided. Patients are allowed to sit up as soon as they desire to and may have a back-rest on the second or third day, and are usually able to be up and walk about by the end of the week.

The Principles of the Operation are:

1. The bladder is supported by and rests upon the posterior wall of the uterus.

2. The uterus is elevated in the pelvis by being tipped forward, in fact its position is changed about 180°. The twist produced in the broad ligaments by the change in the position of the uterus perceptibly shortens them. This twisting of the broad ligaments is the chief factor in correcting the uterine prolapse.

3. The tendency for the uterus and bladder to prolapse, following the operation, are antagonistic, as any sagging of the bladder increases the anterior displacement of the uterus, and any prolapse of the uterus elevates the bladder wall.

Relative Advantages of This Operation.

It is always preferable to plastic vaginal operations alone except in cases where the displacements are slight in amount. In extensive uterine prolapse and cystocele plastic vaginal operations give only imperfect temporary results and the permanent results are nearly always disappointing, as the united surfaces are almost certain to grad-

ually stretch and displacements recur after the patients resume their usual duties.

We believe the operation is preferable to a hysterectomy in all cases except where the uterus is the site of malignant disease, or some other disease which indicates its removal. The operation is less mutilating than a hysterectomy, its technique is simpler, is less dangerous and the uterus is used to decided advantage as a support for the prolapsed bladder.

We believe it to be decidedly preferable to the suspension operations done through an abnominal incision because;

1. This operation is less dangerous than an abdominal section.

2. It is attended by less suffering and convalesence is more rapid than after an abdominal section.

3. The displacement is more perfectly restored by this operation than by suspension operations.

4. Permanent results are much better in this operation as from the nature of the wounds there is very little tendency for the united surfaces to stretch out, while in abdominal suspensions the adhesions at the line of union always elongate to a greater or less extent, and as a consequence recurrences frequently result.

Results:

This operation has been performed by me in nearly all cases of prolapse and cystocele that have come under my care at St. Lukes, Wesley, Mercy and Provident hospitals and in private practice since January 1898. The number is not known. The results from an anatomical standpoint are that the organs are not restored to their normal location and position, which is also a fact after any of the operations for these displacements.

We know of no case where the uterus or bladder have become prolapsed. In a small number of cases slight suppuration has taken place in the perineal and anterior vaginal wounds, but not sufficient in amount to injure the result upon the uterus and bladder. In the earlier cases

there was a fear that the operation might affect the bladder, but there have been no bladder complications of a serious uature. There have been no cystoscopic examinations made to determine if there were any changes in the mucosa of the bladder which have been reportod by Kolischer* as of frequent occurrence after operations causing extensive traumatism of the bladder wall. In no case has the retentive or expulsive power of the bladder been affected. There have been no cases of cystitis, or symptoms simulating cystitis, when the catheter has not been used. A few cases have suffered from a temporary "catheter cystitis."

An objecton to the operation is that it cannot be employed in cases during the child bearing period, without modifications, on account of the complications that would result from gestation and labor. This objection is not so important as might be presumed, as the majority of cases of extensive uterine prolapse and cystocele occur after the menopause. Another objection is that the technique is comparatively difficult, but it is no more so than for other operations that are suffiicently radical to offer a hope for permanent relief of extensive displacements.

MODIFICATIONS OF THE OPERATION.

1. For cases where the uterus is so extensively prolapsed that the anterior fixation does not sufficiently relieve the displacement.

2. For cases operated upon during the child bearing period.

1. In cases of complete uterine prolapse it is much better to modify the operation so that the uterus can be left, if not seriously diseased, than to do a hysterectomy, as even in these cases the uterus can be employed as an ideal support for the displaced bladder. This modification is made by severing a portion of the base of each broad ligament from the cervix and by suture of the free ends of the broad

* The Am. Jr. of Obs. Vol. XLVI No. 61, 1902 and Vol. XLVIII, No. 3, 1903.

ligaments together in front of the cervix: The remainder of the operation is the same as described above.

2. In cases operated during the child bearing period one of two procedures may be employed; A. In cases where it is especially dangerous or inadvisable for the patient to have more children, the isthmic portion of the Fallopian tubes should be excised and the uterine ends closed by suture so that a sero serous approximation will be made.

Ries* has demonstrated that ligation of the tube is not sufficient as the ligature will cut through and leave the tube patent. B. If it is inadvisable to render the patient sterile the operation may be modified by leaving the body of the uterus free in the abdominal cavity and by suture of the anterior vaginal wall to the round ligaments and to the lower surface of the uterine body. In exceptional cases the base of each broad ligament may be severed and united in front of the cervix as described above. These operations, however, do not insure complete relief of the cystocele as does the unmodified operation. It would seem that plastic operations alone for cystocele should not be used except for comparatively slight displacements of the bladder which are unattended by much uterine prolapse.

This operation was first performed by me at St. Luke's Hospital January 28, 1898. Three cases were reported before the Chicago Gynæcological Society, Sept. 15, 1899, and were published in the American Gynæcological and Obstetrical Journal, Nov., 1899.

The operation described at that time differs slightly from the one described above, in that the vaginal wall was not separated from the bladder as near the urethra, more of the anterior vaginal wall was excised and the cervix was displaced further backward by complete separation of the vaginal wall from the crevix and by a median longitudinal incision through the posterior vaginal fornix. The operation was developed from Dührsen and Mackenrodt's operation for vaginal fixation for retroposition of the uterus.

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* Central für Gyncol, 1897, No. 28; Am. Gynaecol. Jr. 1898.

Freund was the first to place the uterus in an anteverted position for relief of uterine prolapse and cystocele; he delivered the uterus through an incision posterior to the cervix, sutured the anterior vaginal wall to the posterior wall of the uterus and the posterior vaginal wall to the anterior wall of the uterus after scarifying the walls and made an opening through the fundus for uterine drainage. The uterus was left uncovered in the vaginal canal except where united by suture. Freund first did his operation in 1895—(Centralblatt for gynakolog. 1896—No. 40.)

Fritsch modified Freund's operation by delivery of the uterus through an incision in front of the cervix and then closed the peritoneal cavity. An oval area was denuded on the anterior vaginal wall for the posterior surface of the uterus to be attached to and the uterus sutured to the margins of this denuded area with catgut. A T shaped incision was now made in the posterior vaginal wall, the two flaps were dissected up and reflected over the body of the uterus and sutured with catgut. (Centralblatt fur Gynakologie; 1900—No. 2.) Wertheim (Centrallblatt fur Gynakologie—1899—No. 14.) modified Freund's operation by delivery of the uterus through an incision anterior to the cervix; he then scarified an oval area on the anterior vaginal wall and a corresponding area on the posterior surface of the uterus, and sutured the edges of the two scarified areas.

Bucura (Zeitschrift fur Geburtshilfe, Vol. 45 1891) reports on sixteen cases operated according to Wertheim's method. Schauta and Wertheim* have recently reported an operation which is similar in many details to the operation which we have devised and described.

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* Doederlein-Khonig, Operative Gynakologie, 1905.

REPORT OF TWO CASES OF UNUSUAL FORMS OF HERNIA.

By ALBERT E. HALSTEAD, M. D., Chicago.

Case I.—*Strangulated Inguino—Properitoneal hernia; reduction en masse; Operation; Recovery;* F. M., male; age 52, admitted to the St. Lukes Hospital January 18, 1904. History: The patient has had a right inguinal hernia for six years past. He first noticed it after lifting a heavy timber. It has gradually grown until at the present time it is larger than two fists. Shortly after its development he had a truss fitted by his family physician which has been quite satisfactory. It has retained the hernia excepting when he was obliged to lift unusual weights. At these times when the hernia came down he could by manipulation effect its reduction without difficulty. Two days ago the hernia slipped by the truss while he was loading wood upon a sleigh and was allowed to remain down about an hour before an attempt was made to replace it. When an effort was made to reduce ths hernia it failed. The pain was moderately severe, but not sufficient to prevent his finishing his day's work. After returning home in the evening, another unsuccessful attempt was made to reduce the hernia. The pain had now become quite severe and was accompanied by nausea. About 10 o'clock at night he vomited once. After this he became alarmed and sent for his family physician, who administered a hypodermic of morphine and applied hot fomentation to the hernia. After an hour the hernia was reduced. At the time he noticed that the swelling did not disappear suddenly as it had on former occasions when the gut slipped back into the abdomen. The pain was lessened but did not subside completely. The large tumor had disappeared, but he could still feel a small mass in the inguinal region which was

exceedingly sensitive to touch. The nausea continued all through the night, but he did not vomit again; There was no bowel movement after the hernia came down, neither did any gas escape. The following morning the symptons remaining the same he was brought to the hospital.

Physical Examination. On admission to the hospital showed the heart and lungs negative. The pulse was slightly accelerated and the temperature was 99 degrees Fahrenheit; the abdomen was moderately distended, but not tender. There was no marked rigidity of the abdominal muscles. Over the middle third of Poupart's ligament on the right side there was a tumor about the size of an English walnut rather firm, immovable and tender on pressure. The inguinal canal was empty admitting the index finger freely. With the finger in the inguinal canal, the tumor could be felt above and to the inner side of the internal abdominal ring, in the abdomal wall. The scrotum contained the testicles which were normal in size and appearance.

The subjective symptoms were about as they had been since the accident occurred. There was some pain in the inguinal regions which he claims is as intense as it was immediately after the hernia was reduced. The bowels have not moved and no gas has been passed. With these symptoms continuing an operation was advised, it being considered probable that a complete reduction had not been accomplished. The existence of a properitoneal sac was not recognized.

After the usual preparation, the operation for herniotomy was begun. After exposing external abdominal ring a sac was found extending from the ring down into the scrotum. This was freed from its attachments up to the external ring. The inguinal canal was opened by incising the apponeurosis of the external oblique. After freeing the inguinal sac up to the interal ring it was opened, and from it escaped a small quantity of bloody serum. On pulling down on inguinal sac, the neck of a second sac was brought into view. This sac was opened by extending the incision made in the first sac. It was seen to contain a

small knuckle of the small intestine and a piece of omentum.

The omentum was dark in color and oedematous. It was freed from the sac, drawn out beyond its point of constriction, ligated and cut off. The stump was pushed back into the abdomen. With the replacement of the omentum, the knuckle of gut was freed and dropped back into the abdominal cavity. The second sac was now dissected from its attachments and found to occupy a cavity between the peritoneum and the transversalis fascia. The cavity containing it was above and to the inner side of the inguinal canal. After pulling out the sac from its place in the abdominal wall, it was found to open by a common orifice with the first sac into the abdominal cavity. This orifice which would barely admit the index finger, was constricted and surrounded by a dense band of fibrous tissue. In size, the deep sac was not as great in circumference and only about one-third the length of the inguinal sac. It admitted freely the thumb up to the base of the first phalanx.

After carefully studying the relations of the two sacs to each other and to the abdominal wall, the common orifice was enlarged to admit two fingers into the abdominal cavity. The strangulated loop of gut was searched for and brought into the opening. The part constricted was found to be a portion of the convex border of the gut opposite the mesentery; only a segment of the circumference of the gut was strangulated. Although the intestinal wall was discolored, yet the circulation seemed to be undisturbed and its surface still showed its normal gloss. It was deemed safe to replace it in the abdomen. The two sacs were then pulled forward until a funnel-shaped process of peritoneum their common neck was brought into view. This was incised beyond the abdominal of the sacs and the resulting opening in the peritoneum closed by suture. The operation for the radical cure of the hernia was completed, Andrew's modification of the Bassini method being employed.

The wound healed by primary union; recovery with cure of the hernia resulted.

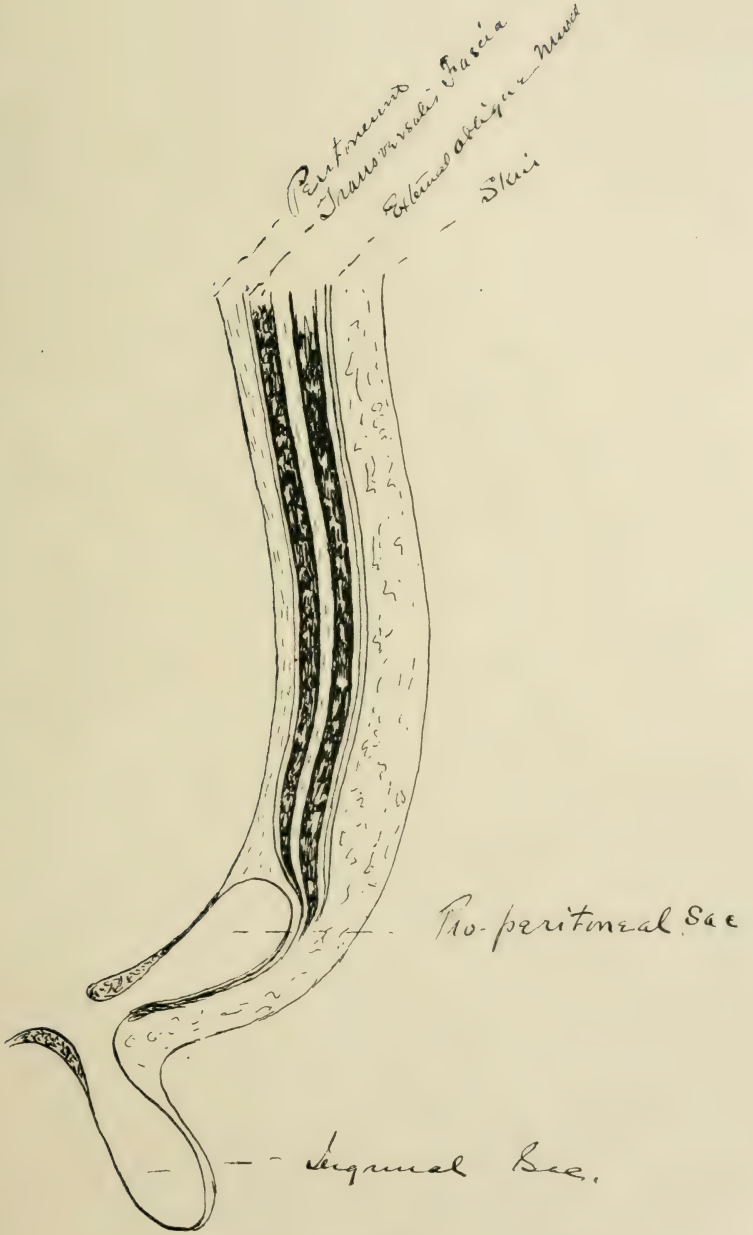

Superficial Fascia
Transversalis Fascia
External oblique muscle
Skin
Pre-peritoneal Sac
Inguinal Sac.

FIGURE 1.

The term "inguino-properitoneal" hernia is reserved for those which fulfill the following conditions: (1) There must be two sacs or two divisions of one sac. (2) The inner or intra-parietal sac lies between the peritoneum and the transversalis fascia. (3) The outer or inguinal sac occupies the inguinal canal or extends down into the scrotum for a variable distance depending upon the degree of completeness attained by the hernia. (4) The origin of the two sacs is by a common funnel-like process; they open into the abdominal cavity by a common orifice.

Although Parise (Soc. Anat. 1849–50–51) first described this variety of hernia, it was Krönlein (Arch. f. Klin. Chir. XIX—408) who first gave it the name of properitoneal hernia and described fully its anatomical and clinical peculiarities. Since Krönlein's work appeared, a large number of cases have been reported with but few new facts added to what he had observed. In 1895 Breiter (Beiträge zur Klin. Chir. Bd. 13) was able to find the reports of 36 cases of which no question could be raised as to their place in this group. These added to Krönlein's 23 cases, made 59, that had been reported up to that year. The works of Krönlein and Breiter have been supplemented by papers from Faguet (Soc. Anat. 1897) in France, Moynihan (Lancet, 1900) in England, and Schmidt (Deutsch. Zeitschrift f. Klin. Chir. Bd. 68) in Germany.

Etiology. It has been observed that properitoneal hernia is frequently associated with imperfect descent or development of the testicles. Many writers assume from this the existence of a causal relation between the arrest of descent of the testicle and the formation of a properitoneal sac. Undoubtedly, given a case in which the ectopic testicle is placed in the inguinal canal or just below the external ring, associated with a congenital hernia, that, impulses from above continuing while the descent of the gut in the inguinal sac is impeded by the misplaced testicle, the gut will be forced laterally in the direction of least resistance, which may be the cause of a diverticulum of the sac being forced into the loose cellular tissue between the

peritoneum and the transversalis fascia. On the other hand, it is well known that many cases of properitoneal hernia have been reported in males in which the testicles fully developed, have reached their normal position in the scrotum. In a few cases reported, this variety of hernia has been found in the female. Eccles claims that, taking all the reported cases, they are relatively more common in the female than in the male sex.

Considering further the etiology of properitoneal hernia, we may have the return of the bowel from the inguinal sac impeded by a cicatricial narrowing of the neck of the inguinal sac, thus causing a bulging of the neck of the sac between the layers of the abdominal wall.

Repeated and unrestrained efforts at reduction of a hernia made by the patient may be a cause of the development of the properitoneal sac which is secondary to an existing inguinal sac. Obstruction of the inguinal canal other than from a misplaced testicle may assist in forming a second sac. This may be from a congenitally small external ring with an unusually large canal. Cicatricial narrowing of the external ring resulting from trauma or the pressure of a misfitted truss which closes the external ring and not the canal, may be factors in establishing a secondary properitoneal sac. Eppinger believes them to be all congenital, the inner sac developing from a diverticulum of the funicular process between its point of origin and the internal ring which is usually constricted. Schmidt accounts for the internal sac by assuming the existance of a dislocated internal ring. As a result of this dislocation, the normal descent of the testicle is interfered with and an inner sac is formed from the upper portion of the inguinal process. Congenital diverticular pouches located about the inner ring as first observed by Rokitansky may constitute a starting point for the formation of a properitoneal sac. Moynihan has observed them in adults, but more often in the foetus.

Reduction en masse has been considered as a cause of properitoneal hernia. The phenomenon known as mass

reduction has been frequently observed in those hernias in which a bilocular sac existed. It is probable that a large proportion of cases in which this accident has occurred, there existed previous to the reduction a second sac into which the contents of the inguinal sac had been frequently forced. Strangulation after one of these apparent reductions continues from constriction of the common abdominal orifice of the two sacs. At the operation or at the autopsy the presence of a properitoneal sac maybe was first discovered. The generally accepted explanation of this so-called reduction en masse is that an inguinal or crual sac, by repeated and forcible manipulation, if separated from its attachments to the surrounding structures and invaginated or is pushed into the abdominal cavity without the relations existing between the sac and its contents being changed by the change in position of the sac. It may be here stated that such a separation of the sac, particularly of a congenital hernia would seem impossible. The difficulty encountered in separating an acquired hernial sac from its attachments in herniotomy, which in most operations is considerable, would seem to preclude the possibility of this occurring from taxis applied through the intact coverings of a hernia. Strubel (Ueber schein reduction bei Hernien u. s. w. verhand. d. Med. Geselsh. zu Leipzig 1884) believes that this usual explanation of reduction en masse of a hernia to be unsupported by autopsy, and considers that it occurs only in bilocular hernia of some variety. Other accidents that may simulate reduction en masse but which cannot be strictly so considered, are rupture of the sac with the escape of the hernia into a pocket in the abdominal wall, or rupture of a sac containing a large quantity of hernial fluid with the escape of the fluid into the abdominal cavity or between the muscles of the abdominal wall, the gut or omentum remaining strangulated. This occurring in a fat patient where the wall is thick and hernia small, the presence of a strangulated piece of intestine in sac might be overlooked. The diminution in size of the tumor might be considered evidence of complete reduction of the hernia.

In summing up the factors that appear to us as being the most important in the causation of properitoneal hernia, and also of the other forms of interstitial hernia we may mention that there appears to be good reason to believe that congenital defects such as incomplete descent of the testicle, congenitally misplaced internal abdominal ring, ususally narrowing of the external ring, or congenital diverticular-like process of peritoneum about the internal ring may determine the development of a secondary interstitial sac, the inguinal sac being primary in time of development. It has been shown that bilocular hernia occurs more frequently on the right side than on the left (33 in right and 20 in the left in 59 cases collected by Breiter.) It is also well known that ectopic testes occurs oftener in the right side and that the funicular process closes later on the right side than on the left side. These facts indicate that some relation may exist between these congenital defects and the occurrence of a properitoneal hernia. However, the existence of this variety of hernia without the congenital defects mentioned above, indicates that the other etiological factors detailed may occasionally determine the development of a second sac. The chief we believe to be the use of a poorly fitted truss.

RELATION OF THE PROPERITONEAL SAC TO THE INTERNAL RING.

The inner or properitoneal sac generally occupies one of three positions: (1) Between the internal ring and the anterior superior iliac spine its long axis being directed upwards and outwards parallel with Poupart's ligament. This is the usual position and easiest recognized before the sac is exposed either by operation or autopsy. (2) It may be directed downwards and inwards to the side of or in front of the bladder. This form has been described as hernia inguinealis ante-vesicalis. (3) It may be directed backwards and occupy the inner part of illac fossa. In this variety the inner sac lies close to the retroperitoneal pouches that are known as the subcaecal fossæ. Moynihan believes that certain cases described as hernia into the

retrocaecal fossæ have in reality been properitoneal hernia belonging to this third group. W. Schmidt (Deutsch. Zeitschrift. f. Klin. Chir. Bd. 68, 1903), describes an inguino-properitoneal hernia in which the properitoneal sac extending from the internal ring to the obturator foramen occupying a part of the true pelvic cavity. The patient had what was considered a common left inguinal hernia that had existed for several years. Twice it had become strangulated. The first time reduction which was easily made without an anaesthetic, was complete. A few months later it again became irreducible and painful. An attempt at reduction was made and considered successful. The symptoms of strangulation continued. Operation upon the second day after the apparent reduction showed the inguinal sac to contain only about 30 c. c. of bloody fluid. As the cause of the persisting symptoms of strangulation could not be discovered through the herniotomy wound the abdomen was opened in the median line. With the patient in the Trendelenberg position a careful search revealed the properitoneal sac deep in the pelvis. An opening connecting with the inguinal sac that just admitted the index finger was located. The strangulation occurred at the neck of the properitoneal sac.

The size of the properitoneal sac is usually small, and in this respect bears no relation to the inguineal sac. Many of the reported cases were described as Littre hérniæ, the properitoneal sac containing only a small diverticular-like segment of the circumference of the gut.

The inguinal sac may occupy any part of the inguinal canal or extend into the scrotum. It is frequently congenital, and at times double. In itself it differs in no particular from the sac of an ordinary inguinal hernia. The common abdominal orifice of the two sacs is frequently contracted. Its margin may be rigid from the presence of cicatricial tissue, due no doubt to repeated traumatism from the forcible reduction of the hernia.

The diagnosis of propertioneal hernia is seldom made excepting when the properitoneal sac is exposed to view

during an operation or at the autopsy. (Braun-Centralbl. f. Chir. 1892—reported that he believed to be the first case in which the presence of a properitoneal sac was recognized and the exact anatomical condition detailed before the patient was operated upon for the relief of the strangulation which existed.

The usual history of these cases is, that a patient with an inguinal or femoral hernia which has been reducible, suddenly develop symptoms of subacute or acute strangulation. Reduction by taxis is attempted with apparent success. The pain obstipation and other symptoms of strangulation persist with a fatal termination unless relieved by operation.

The presence of the properitoneal sac when filled with gut or omentum can be recognized in some cases. In those in which the sac is directed upwards and outwards, the presence of a tumor or tumefaction makes this possible.

When the sac is directed downwards and inwards toward the bladder, or when it is directed backwards in the pelvis, its deep location precludes the possibility of its recognition by palpatation or percussion. In Breiter's collection of 36 cases, it was possible in 22 to recognize a tumor which was proved either by autopsy or operation to be the properitoneal sac.

Moynihan believes these figures to be incorrect and supports his argument by the examination of specimens found in the Museum of the London Hospitals. These show that in the majority of cases the direction of the sac is such that it could not possibly be recognized by means of physical examination of the patient during life.

Strangulation of a properitoneal (or of any variety of bilocular hernia) may happen in one of three places. (1) it may occur in the common orifice of the two sacs. If the hernia appears to have been reduced, it means that the contents of the inguinal sac has been pushed into the deep sac without effecting in any way the part strangulated. If the sac occupies a position which will permit of its being recognized by palpitation, the persistence of the symptoms

of strangulation are easily explained. The absence of a tumor indicating the presence of a properitoneal sac should not however deter a surgeon from operating in cases of apparent reduction in which the symptoms of strangulation continue. The case of Schmidt detailed above demonstrates the great necessity of making a careful search of the hernia region for the properitoneal sac.

(2) Strangulation may take place at the neck of the properitoneal sac. If there is no external evidence of the existence of this sac, the case will pass for one of intestinal obstruction. The cause will only be revealed after the abdomen has been opened. In all cases of obstruction when there is a reducible hernia, the possibility of a second interstitial sac lodging a loop of gut should be considered.

(3) If the constriction occurs at the neck of the inguinal sac, the case is one of ordinary strangulated hernia. The properitoneal sac may be overlooked even in cases submitted to operation.

Left inguinointerstitial Hernia; (Hernia Inguino-subfacialis) Herniotomy; Recovery.

Case II. Adolph K. Age 65, entered the St. Luke's Hospital July 3rd, 1905. History: Patient has had a large left inguinal hernia for about thirty years. He states that he has worn a truss for fifteen years and that during the last five years it has failed to retain the hernia completely. Examination while the patient is standing shows that the hernia reaches the bottom of the scrotum and is larger than two fists. The external inguinal ring and the inguinal canal are very large admitting readily two fingers. There is marked impulse on coughing. When erect, the tumor reaches from the bottom of the scrotum upwards and outwards near the anterior superior iliac spine. When reclining the scrotal enlargement nearly disappears. The tumor between the external ring and the anterior superior spine does not disappear, but becomes less prominent. If an effort to rise is made when the patient is reclining, the inguinal tumor becomes very prominent and its walls quite

tense. On percussion it has a uniform tympanitic note. Compression of this tumor causes diminution in size but not complete disappearance.

Both testicles are in the scrotum; both are normal in size, position and consistency. He complains principally of a feeling of dragging and weight in the abdomen and has entered the hospital for the purpose of securing relief through operation.

Operation on July 7th, 1905, under ether anesthesia.

The usual incision employed in herniotomy was made exposing the external inguinal ring and the cord. A hernial sac was found extending from the external ring down into the scrotum. The relation of the testicle and cord to the sac showed that the sac was acquired and not congenital. After freeing the sac from its attachments up to the external ring, it was opened and found empty. The apponeurosis of the external oblique was then excised from the external to the internal ring exposing the neck of a second sac. Further division of the external oblique showed this second sac to be about three and one-half inches in length and connected with the first or inguinal sac, both sacs opening into the abdominal cavity of a common orifice which admitted two fingers. The second sac lay underneath the apponeurosis of the external oblique resting upon the internal oblique. When opened it contained a loop of intestines about six inches in length which was not adherent and which was readily replaced in the abdomen. The two sacs were drawn outwards, the common neck loosened from the internal ring, a purse string suture was passed around it and the sacs removed by cutting through this neck. The abdominal cavity was closed by tightening the purse-string suture. The operation was completed by Bassini's method for radical cure of hernia. Healing by primary union, with cure of the hernia.

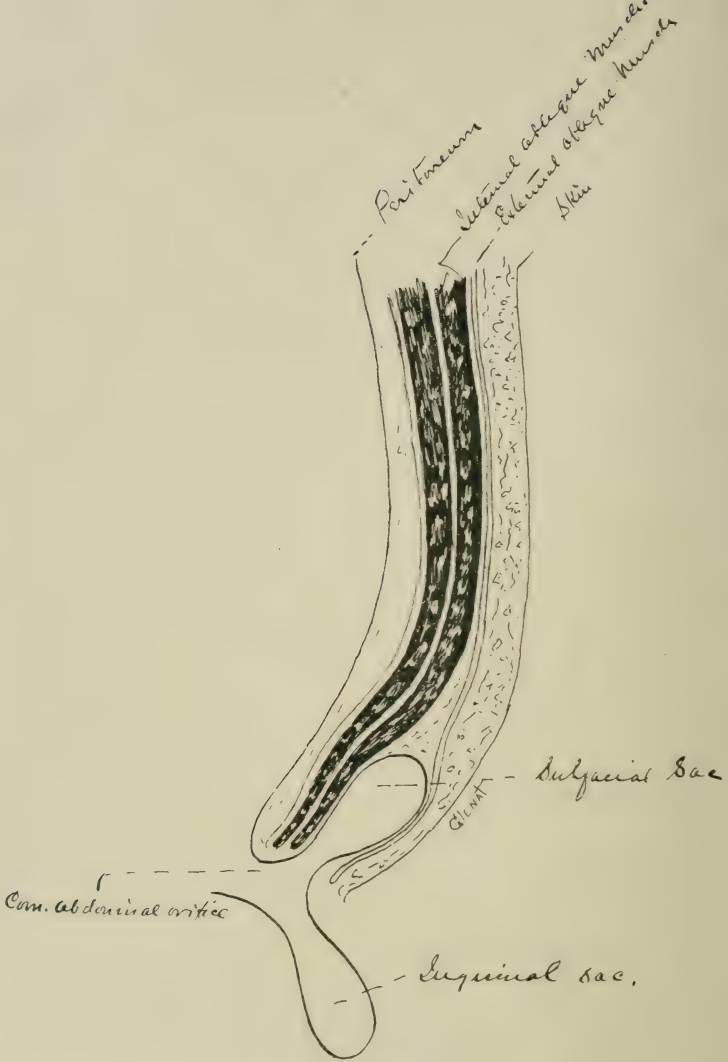


FIGURE 2.

This case represents the commonest form of interstitial hernia. The classification of these hernia is based upon the position occupied by the interparietal sac. Any hernia in which a portion of the sac is placed in the planes of

the abdominal wall is called interstititial or interparietal. Taking this definition we find clinically that the inner sac has been found. (1) Between the peritoneum and transversalis fascia. The so-called properitoneal hernia which represents the rarest type of interstitial hernia. (2) Between the internal oblique and the apponeurosis of the external oblique muscles. This is the most common form and was first described by Goyrand (Mem. de l'Acad. de Med. Paris, 1836) and called by him Hernia Inguino-Interstitialis. It is also termed Hernia Inguino-Subfacialis, by

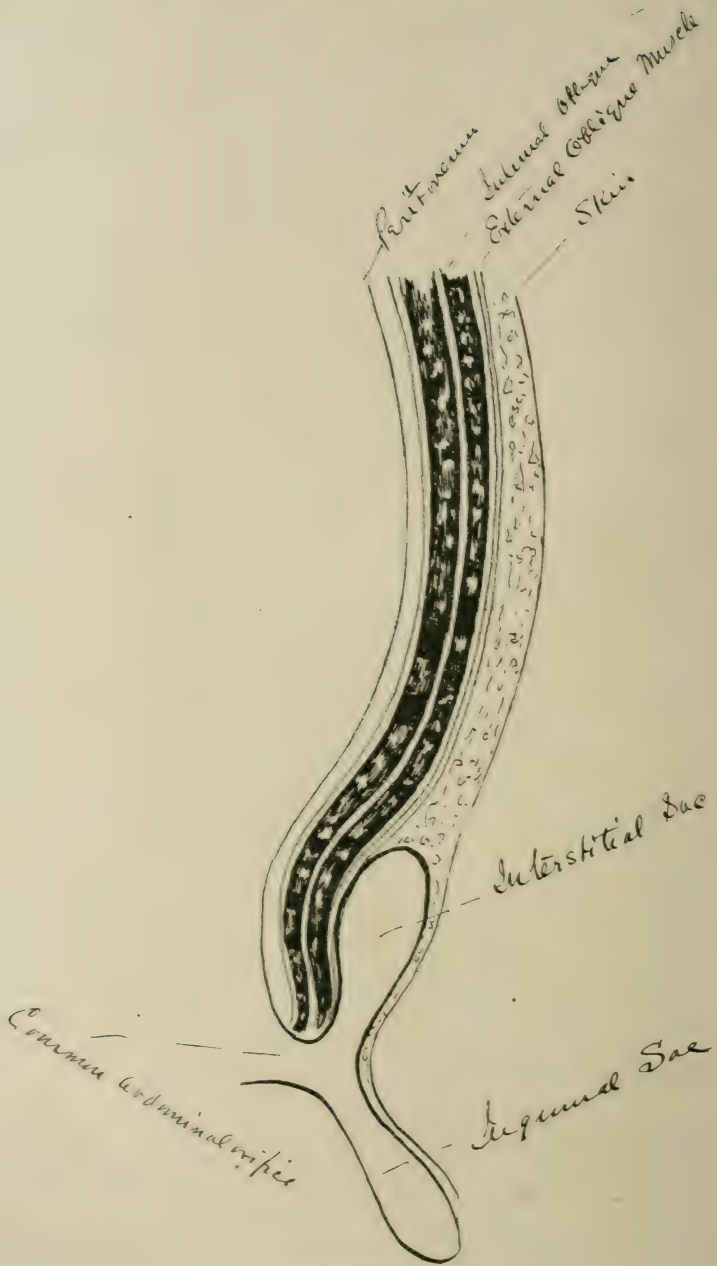

Peritoneum
Internal oblique
External oblique Muscle
Skin
Interstitial Sac
Common abdominal ring
Inguinal Sac

FIGURE 3.

Strubel. (3) The parietal sac may lie between the skin and the external oblique. This variety was first described by Kuster (Arch. f. Klin. Bd. 34) and termed Hernia Inguinor Superficialis. In this type the superficial sac may pass upwards toward the anterior superior spine of the ilium or may reach downward onto the thigh as in Busch's (Arch. f. Klin. Chir. Bd. 4) case. In Brocas (case Soc. An. 1888) it extended upwards and inwards toward the umbilicus. In other cases the sac has been found as far down as the perineum. In women it frequently is formed beneath the skin of the labium.

In etiology the three types of interstitial hernia have much in common. Much of what has been said concerning the cause of properitoneal hernia applies to the subfascial and superficial varieties. The congenital pouches of Rokitansky of course cannot be considered as an etiologic factor. Abnormalities of the testis occur frequently. McCready's Tables show that about seventy-three per cent. of the cases are associated with arrest of descent or some other abnormal condition of these organs. Moynihan considers retained testis as the most important cause of interstitial hernia. This is accomplished by the testis obstructing the inguinal canal there barring the descent of the hernia which in the end causes bulging of the sac in the direction of least resistence. In these cases as in properitoneal hernia, the use of an improperly fitting truss would appear to be of importance as a factor in developing the diverticulum that forms the interparietal sac.

The diagnosis of interstitial hernia is generally easily made if the anatomic types of hernia are kept in mind. The bulging parietal sac can generally be easily recognized. The frequent association of this form of hernia with anomalies of testes should direct attention to the possibility of this hernia when imperfect descent of these organs exists. Strangulation of the subfacial and superficial types unlike that of the properitoneal is infrequent.

The treatment of interstitial hernia including the properitoneal type can be only operative. The wearing of a

truss can do nothing but harm. The presence of a retained testes is always a contraindication to the use of a truss in any hernia. When a parietal sac exists it can only increase the already great risk of strangulation.

TYPHOID FEVER—COMPLICATING PREGNANCY.

Report of a Case and Summary of the Literature.

By ROBT. B. PREBLE, M. D., and CHARLES P. CLARK, M. D.

The influence which an intercurrent typhoid has upon a pregnancy has been variously estimated by different authors, each being influenced more by his own personal experience than by the combined experience of all. Murchison, for example, regards the combination with fear, both for mother and fœtus. Liebermeister saw fifteen of eighteen gravid typhoids abort; six of the mothers died. Griesinger lost three of five patients. Curshman saw thirteen of fourteen abort, and five died in his clinic in Leipsic. While in Hamburg his experience was larger and more favorable. He had there thirty-eight cases. Three were delivered at term, during convalescence, of living children; in fourteen the pregnancy was not interrupted by the typhoid; of the other cases, twenty-one either aborted or miscarried, and three of them died. Gotti saw four out of nine abort, and Betz had an identical series of cases. Dugurjot held that two thirds of these cases abort, and that the abortion is more apt to occur, the nearer the pregnancy is to term. Usually the children are born dead or die soon after birth.

With the passage of time these questions concerning the interaction of typhoid fever and pregnancy have become subordinate to certain more recent ones. The newer investigations are concerned particularly with the transmission of bacilli and agglutinins from mother to fœtus.

Opportunities for the study of these questions are not numerous and it therefore seems worth while to record the following example of typhoid fever in a pregnant woman, who aborted, and whose fœtus was submitted to post mortem examination, and which showed typhoid bacilli in the blood

and organs without the presence of the specific agglutinins in the blood.

Abstract from the clinical record:—Mrs. M. M., a Russian, twenty-seven years of age, a worker in the fields, was admitted to St. Luke's Hospital, October 9, 1905.

Her previous history as regards disease was negative. She had one child, three years old, which was healthy. She was pregnant at the time of admission, her last menstrual period occurring in June, 1905. Prior to her present illness the patient nursed her husband during an attack of typhoid fever. The husband, while in a period of delirium, trying to escape from his room, died suddenly.

One week after the husband's death—three weeks previous to admission—the patient became ill and was compelled to go to bed. She had a severe headache and backache, accompanied by chilliness, fever, daily epistaxis and a mild bronchitis. She had an occasional abdominal pain. The attending physician said that she was three months pregnant, that the child was dead, and that this was the cause of her present symptoms. He gave her an oxytocic but abortion did not follow.

At the time of admission to the hospital the following findings were noted; the patient is a woman of slight build and fair nutrition; her expression is that of great discomfort. The temperature is 102.4° F., pulse 100, respiration 24. The pulse is not dicrotic. The cheeks are markedly flushed; the tongue is tremulous, dry, and coated with a white fur. With the exception of a few ralès posteriorly the pulmonary findings are negative. There is a faint systolic, mitral murmur over the apex of the heart. The abdomen is tympanitic and slightly tender. No roseola is present. The spleen is palpable for a distance of three centimetres below the left costal margin; the liver for a distance of six centimetres below the right. The margin of the liver is sharp and firm. The fundus of the uterus may be felt three centimetres below the umbilicus. The uterus is flaccid and contractions are absent. Ballotement reveals the presence of a foetus but no foetal movements can be felt. The vaginal outlet is relaxed, the mucosa is

blue and the cervix is soft and patulous. The uranalysis is negative. The blood examination reveals the following: haemoglobin, 60 per cent.; erythrocytes, 3,200,000; leucocytes, 4,750; Widal reaction positive with a dilution of 1 to 60.

The diagnosis was—typhoid fever complicating a five month's pregnancy. It was suspected that the fœtus was dead, since fœtal motions were not palpable and the uterus was relaxed.

The course of the disease was that of a mild typhoid, the highest temperature after admission being 103° F. The pulse remained between 90 and 105. The general condition of the patient was good and there was no severe intoxication. There were from time to time bearing down pains which resembled those of labor, but these always subsided after the application of heat. But one tub bath was given, that on the second day after admission.

Fœtal movements were still absent October 16th, and the uterus was still relaxed. On October 19th, the third day of convalescence, faint fœtal movements were, for the first time, palpable. The fœtal movements during each successive day became more and more vigorous, and the tone of the uterine muscle returned to normal. The fundus of the uterus now reached the umbilicus.

In the afternoon of October 22nd—five weeks after the fever began, and five days after the temperature had remained normal—labor began. The pains became more frequent and intense. One-half grain of codeine and an equal amount of morphine, in small doses, were given to check the pains but they did not abate. Nine hours after the onset of labor the patient expelled a male foetus. It made several spasmodic attempts to breathe, but died three minutes after birth. The placenta was delivered by Crede's method thirty minutes later. Labor was short and easy. The puerperium was normal with the exception of a transient cholecystitis. The patient was discharged November 5th. The spleen, liver and uterus were within normal limits at this time.

At the necropsy of the foetus no lesions could be dis-

covered by macroscopic examination. The foetus was a normal male of six months development.

Sections were made from the various organs and these failed to show microscopically any of the lesions of typhoid fever.

One hundred cubic centimetres of bouillon were inoculated with three drops of heart's blood. In twenty-four hours there was a vigorous growth of a motile bacillus. The bacillus had all the morphological and cultural reactions of the typhoid bacillus. It remained motile when mixed with non-typhoid serum, but was readily agglutinated when mixed with serum derived from known typhoid patients.

In sections of the lung, spleen and placenta, stained with methylene blue, were demonstrated bacilli resembling in all respects those of typhoid fever. The organisms were not abundant. They occurred in groups of from two to eight, and were most numerous in the blood and lymph vessels. The Widal reaction was tried with the umbilical blood but proved negative. The dilution was one to forty. There was no clumping and the organisms remained motile one and one-half hours.

After a careful search of the literature there have been found recorded about fifty cases of pregnancy complicated by typhoid fever, and which have been studied by modern bacteriological methods. These cases may be divided according to the thoroughness of the examination into:

First. Those in which the foetal blood was examined by the Widal agglutinative test.

Second. Those in which a search for the bacillus in the body of the foetus was made by cultural or histological, or by both methods.

Third. Those in which the examinations for both bacilli and agglutinins were made.

We include in this report a table which comprises a majority of all the recorded cases. This table is arranged according to the above classification. Those cases marked with an asterisk were cited by Hicks and French and the data obtained from their table published in July, 1905.

I. Cases with Widal Test.

No.	Observer.	Month of Pregnancy.	Fate of Mother.	Fate of Fœtus.	Widal in Mother.	Widal in Fœtus.	Bacillus in Fœtus.
*1	Digliotti			Born 9th day Lived.	X	O	——
*2	Planchu & Gallivardin .	8½	Lived.	Born 13th day Died.	X	O	——
*3	Planchu & Gallivardin .	6	"	Born 6th week Dead.	X	O	——
*4	Chambrelent	8	"	Born 4th week Lived.	X	O	——
*5	Batty Shaw.	9	"	Dead.	X	O	——
*6	Stengel.....				X	O	——
7	Boyd & Routh.....	9	Lived.	Born at term. 4th week. Lived	X	O	——
8	Lynch.....	5			X	O	——
*9	Griffiths.....	9	Lived.	Born 4th week. Died.	X	X	——
*10	Mossi & Dan'o		"	Born 29th day.	X	X?	——
*11	Kirton.....	9			——	X	——
12	Speier.....	4		Born 21st day.	——	X	——
*13	Chambrelent	8	Lived.	Born 4th day. Lived.	X	X	——

II. Cases Examined for Bacillus.

No.	Observer.	Month of Pregnancy.	Fate of Mother.	Fate of Fœtus.	Widal in Mother.	Widal in Fœtus.	Bacillus in Fœtus.
*14	Freund & Levi.....	5	Lived.	Born 3rd week. Dead.	——	——	X
*15	Etienne	5		Born 3rd week. Died in 12 hours.	——	——	X
*16	Eberth			Born dead 3rd week.	——	——	X
*17	Hildebrandt.	6½		Born dead 22d day.	——	——	X
*18	Giglio				——	——	X
*19	Janiszenski .			Premature. Lived 15 days.	——	——	X
*20	Durk				——	——	X
*21	Ernst.....	9	Lived.	Died in 4 days	——	——	X
22	Horton-Smith.	4			——	——	X
23	Richardson .				——	——	X
24	Richardson .	4			——	——	X
25	Blumer.....	5		Went to term. Died 9th day.	——	——	X
26	Neuhass.....	4	Aborted during Convalescence.		——	——	X?
27	Rehen.....	6		Born 19th day.	——	——	X?
28	Balp.....	6	Died 4th day after delivery.	Lived 4 hours.	——	——	X
*29	Frascani				——	——	O
*30	Resinelli				——	——	O
*31	Fraenkel & Kiderlein....	5	Died.	Born dead 17th day of fever.	——	——	O

III. Cases with Both Examinations.

No.	Observer.	Month of Pregnancy,	Fate of Mother.	Fate of Fœtus.	Widal in Mother.	Widal in Fœtus.	Bacillus in Fœtus.
*32	Bolton.....	3	Died.	Born dead 25th day of relapse.	X	O	O
*33	Bolton.....	8	Lived.	Twins, born 10th day. Died.	X	O	O
*34	Rous & Lacroix	8	"	Went to term.	X	O	O
*35	Rous & Lacroix	8	"	Born dead.	X	O	O
*36	Kirton.....	6			X	O	O
*37	Kirton.....	9		Dead.	X	O	O
*38	Hicks & French	7½	Died.	Born 8th day. Died ¾ hour later.	X	O	O
39	Lynch.....	7½	Lived.	Born 40th day. Lived 71 days.	X	O	O
*40	Fordyce.....	5	Died.		X	X	X
*41	Bolton.....	5	Lived.	Born 10th day. Lived 3 days.	X	X	X
*42	Etienne.....	5	Died 15th day.	Taken out at Necropsy.	X	X	O
43	Lynch.....	3	Lived.	Born dead.	X	O	X
44	Preble & Clark.....	5	"	Born 5th week. Lived 3 minutes.	X	O	X

From this fairly complete list of cases an idea of the data thus far recorded may be obtained and some conclusions may be drawn therefrom.

Two of the leading questions which have been raised apropos of this complication of pregnancy are :—

First—Can the typhoid bacillus be transmitted through the placenta to the fœtus?

Second—Can the agglutinins be transmitted through the placenta to the fœtus?

The first question has been definitely answered in the affirmative by the finding of the typhoid bacillus in the body of the fœtus in nineteen out of thirty-one cases in which the search was made. That the transmission of the organism is placental in these cases, and not germinal is agreed by all. A further question which is of interest in this connection is—what determines the transmission of the organism from mother to fœtus? If one fœtus is infected, why not all? Boyd and Routh state that the epithelium of the normal chorionic villi is capable of protecting the fœtus from an invasion of the typhoid bacillus from the mother: that the invasion does not take place because of an intact syncytial layer. Supporting this view is the fact that others who have reported cases in which invasion did occur have been able to demonstrate within the placenta minute hæmorrhages or infarcts, and they conclude that these lesions constitute the avenues of infection of the fœtus from the maternal blood.

The question of the transmission of the agglutinins through the placenta is not so definitely answered. It is interesting to note in this connection that of the thirteen cases bearing upon this question—No's 32 to 44 inclusive—but one is suggestive of this possibility. This case, however, is not proof of the possibility, for when the organisms are few, it is easy to overlook them in the sections, and cultures from the blood under certain conditions may be sterile.

That there may be an infection of the fœtus without the transmission of agglutinins is evident from the case reported by Lynch; also, from the one here published. In

these cases the Widal reaction was negative, but the organisms were clearly demonstrated, A second significant fact is that of the eleven cases in which an examination was made for both organisms and agglutinins, eight showed a double negative, two a double positive, two a negative Widal with the presence of bacilli, and but one a positive Widal with the absence of bacilli. Thus, in all but one case the agglutinins were either absent, or their presence could be attributed to the presence of the bacillus in the fœtal blood.

Judging from these, it would seem that in the majority, if not in all cases, the agglutinins present in the foetal blood have not been transmitted through the placenta, but have been formed within the body of the fœtus after the introduction of the organisms into the fœtal blood. It is probable that had abortion in the two cases reported by Lynch and ourselves been deferred a few days, the Widal reaction with the fœtal blood would in these, also, have been positive.

Are these conclusions out of harmony with theoretical probabilities? If we can assume that the agglutinins are substances in solution, it would seem possible that they might pass through the normal placenta into the fœtal circulation. But that such transmission is not usual is evident from the fact that of twenty-five cases in which the Widal test was made eighteen gave a negative result.

As to an abnormal placenta, it might be urged that we should get a transmission of the agglutinins through those lesions, through which the bacilli gain admission into the fœtal blood. That there is such a transmission of agglutinins is very probable, but because of the minuteness of the lesions it does not seem likely that there can be an entrance of much agglutinating blood into the fœtal circulation. The agglutinins, if our conception is right, cannot themselves multiply, but must be formed by the tissue cells, therefore, unless there is admitted into the fœtal circulation a large amount of maternal blood—a thing which probably could not occur—the Widal reaction must prove negative, for the dilution of the transmitted agglutinating serum

would be too great tc render a positive test. On the other hand, the admission into the fœtal circulation of one drop of maternal blood, laden with bacilli, is sufficient to give rise to a septicæmia of the fœtus because of the rapid reproduction of the bacilli. It seems, therefore, that our clinical and theoretical observations are in harmony, and though further observations may change our views, it seems probable, at least, in the light of information thus far received that:

First—*Bacteria* do not pass through a normal placenta.

Second—*Bacteria* may pass through an abnormal placenta through such lesions as hæmorrhages and infarcts, giving rise to a septicæmia of the fœtus.

Third—That *agglutinins* do not pass through a normal placenta.

Fourth—That *agglutinins* may theoretically pass through the same lesions through which the bacilli gain entrance into the fœtal circulation; but that unless they pass through in very large quantities the dilution will be so great that the Widal must prove negative.

Fifth—That in the majority, if not in all cases, the *agglutinins* are formed within the fœtal body after the entrance of the *bacilli* into the fœtal circulation, time being required here, as in the adult, for their production through the activity of the body cell.

Technique Adopted in the Service of Dr. E. C. Dudley to Prevent Stitch-Hole Supporation after Closure of Abdominal Incisions.

The following technique, which has been carried out in Dr. Dudley's service for nearly three years, has resulted in almost entire disappearance of that kind of suppuration in abdominal wounds, commonly known as stitch-hole abscesses. This technique is intended to avoid the most frequent causes of suppuration, such as improper preparation of the cutaneous surfaces, improper selection and disinfection of suture material, the burying of numerous bulky hard knots in the tying of buried sutures and too tight tying of the sutures. Addition to the above, and germane to the subject, are some special matters of technique in the general conduct of the operation and the dressing of the wound. The matter naturally divides itself under the following heads:

1. Cleansing of the cutaneous abdominal surface.
2. Incision and haemostasis.
3. Closure and dressing of the wound.

CLEANSING THE ABDOMINAL SURFACE.

Twenty-four hours, or, if possible, forty-eight hours before operation, the entire abdominal, pubic and perineal areas are shaved carefully, including not only the coarse hair, but, so far as possible, the white downy hairs, especially those about the navel. A poultice of green soap is then placed over the abdomen, including the epigastrium, and allowed to remain one and one-half hours. Upon removal of this poultice the remaining soap is washed off thoroughly with sterile water. The abdomen then is covered with thick layers of gauze wet with an aqueous

mercuric bichloride solution, 1-5,000, the whole being covered with oiled muslin or gutta-percha protective and an abdominal binder. This dressing is re-wet every four hours and retained until three hours before the operation, when fresh sterile gause wet with a 1-5000 mercuric bichloride solution in 50 per cent. alcohol is substituted and retained until the patient is under anesthesia. The last dressing then is removed and a thick ethereal alcoholic sterile solution of green soap over the whole abdomen is poured. The umbilicus is filled completely with this soap. As little water as possible is used. The soap is worked up into a layer of paste, a towel being used for the purpose instead of a brush. The entire abdomen, epigastrium and hips are scrubbed, but not to the extent of producing marked erythema. The soap is then wiped off with dry sterile towels and the surfaces thoroughly washed first with sterile water and then with 1-5000 bichloride solution in 95 per cent. alcohol before the initial incision is made, special attention being given to the swabbing out of the umbilicus with this solution. The reason for working the soap into a paste with as little water as possible is because the excess of alkali saponifies the fat of the skin and probably destroys the capsules—*i. e.*, outer coverings—of the micro-organisms.

The rationale of preparing a large area when only a small portion of the abdomen is to be incised is that in some cases the incision may have to be extended greatly, so that skin surfaces which one has no previous idea of handling may have to come in contact with the hands or gloves. A process so extensive and detailed as this may seem unnecessary, but there is evidence that it goes far to prevent wound-infection and stitch-hole abscesses.

INCISION AND HAEMOSTASIS.

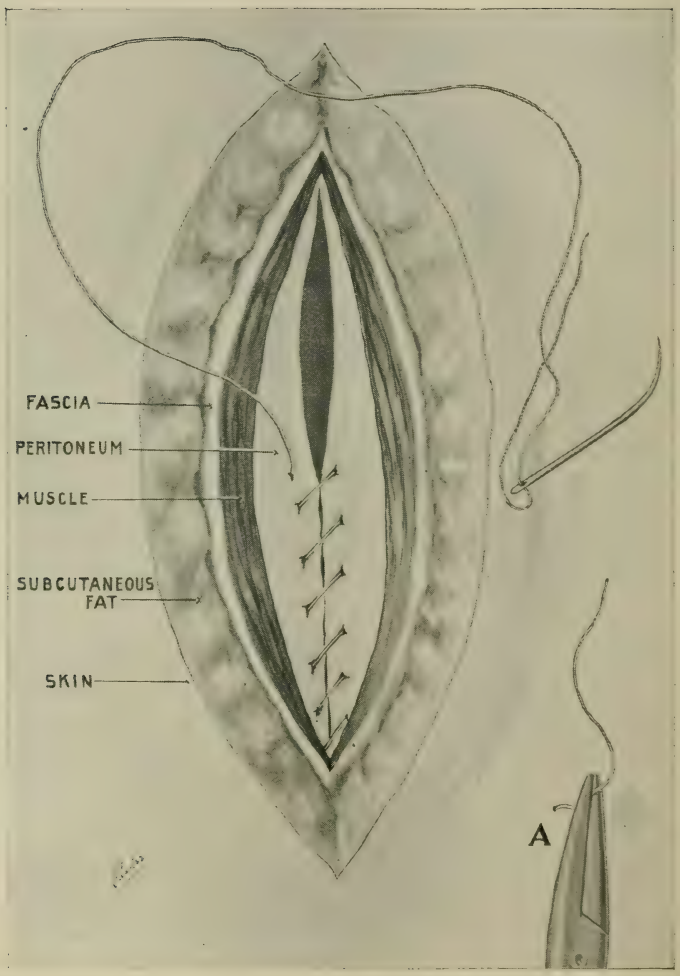
As the incision is made, small bleeding points are controlled by means of small pressure forceps left on for a few minutes. If the hemorrhage continues each point may be secured by torsion or by very fine catgut ligature, although buried ligatures, especially with hard knots, are to be

avoided if possible, because they act as foreign bodies and may be the starting points of suppuration. In order to give broader surfaces for union and consequently greater strength in the repaired wound, the incision usually is made not through the linea alba, but directly through the sheath of the rectus muscle on the right side, splitting the inner third of the muscle. This incision gives equal freedom in examination of the pelvic organs and renders the appendix vermiformis so accessible that it may be manipulated if necessary through a smaller wound and with less disturbance to the incised surfaces than would be possible through the usual mediam incision.

CLOSURE AND DRESSING OF THE WOUND.

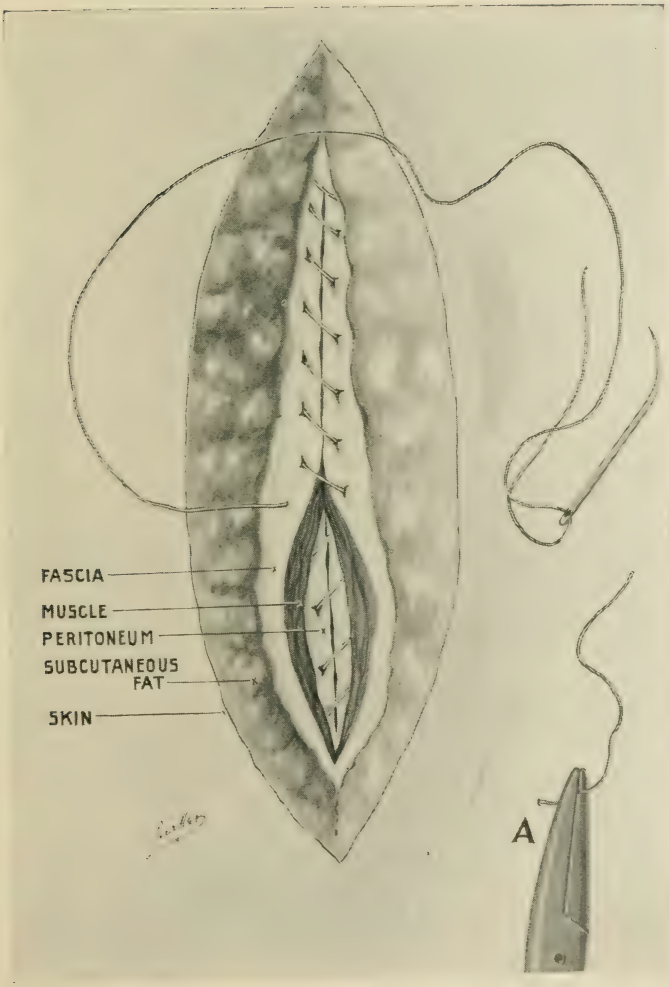
The ordinary method of through and through interupted suture, including the entire thickness of the abdominal wall and tied upon the skin, has been abandoned, and the method of buried continuous catgut suture has been substituted. Number one or two catgut sterilized with iodine is generally used. The old practice of using chromicized gut, which will resist absorption from three to six weeks, has been given up, because: first, it is thought to be unnecessary; and second, because the longer the gut remains the more it is likely to act as a foreign body in the development of suppuration. Great care is used to draw the suture only tight enough to keep the incised surfaces in contact with one another. Tight tying strangulates the tissues and thereby tends to destroy resistance to possible infection. The technique of closure and dressing of the wound is set forth in the accompanying illustrations.

FIGURE 1.



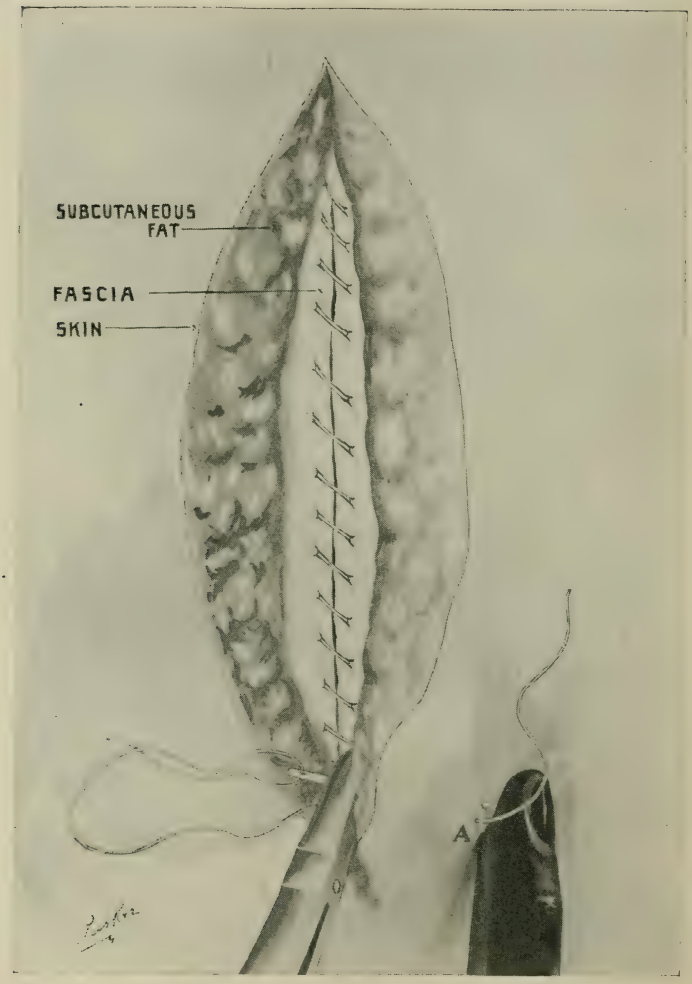
EXPLANATION OF FIGURE 1: The iodized catgut suture is introduced at A, brought out at the lower end of the wound and continued as a running suture to approximate the cut edges of the peritoneum. The lower half of the incised peritoneum is here shown as united by this suture.

FIGURE 2.



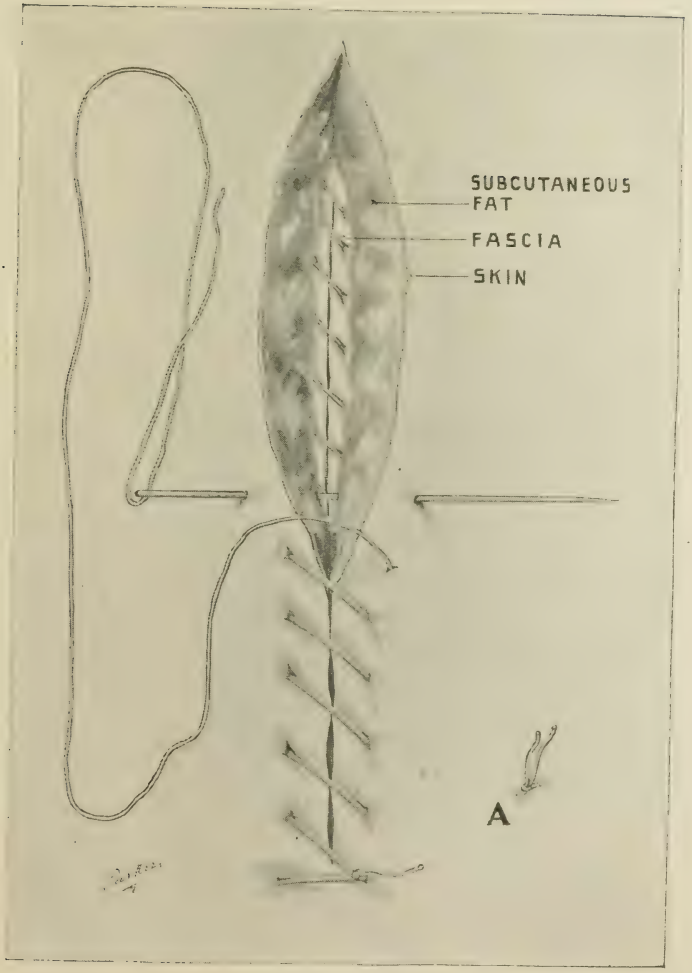
EXPLANATION OF FIGURE 2: Continuation of Technique shown in Figure 1. The running catgut suture having completed the closure of the peritoneum is continued in the closure of the incised right rectus muscle and of the fascia which covers it. The next Figure—*i. e.*, Figure 3—will show the fascia entirely closed.

FIGURE 3.



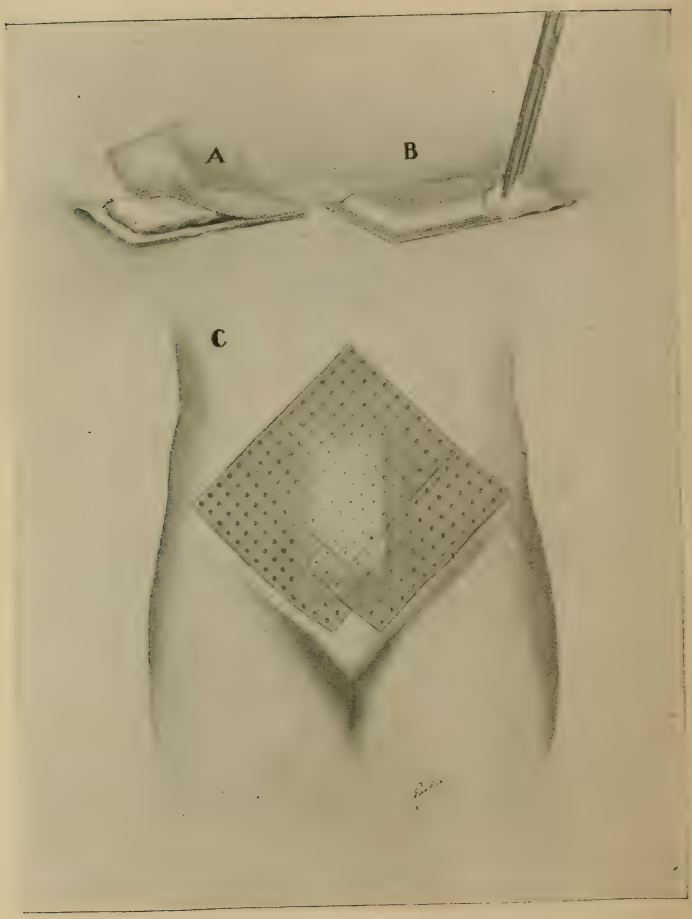
EXPLANATION OF FIGURE 3: Continuation of Technique shown in Figure 2. Fascia covering right rectus muscle entirely closed by catgut suture. This suture is now being put through from the lower end of the wound by means of the needle to point A, *i. e.*, to the same point where it entered at the beginning of the closure of the wound. The next step will be to tie this suture at A. By means of this technique the operator avoids the burying in the wound of any knot which might act as a foreign body and thus favor suppuration.

FIGURE 4.



EXPLANATION OF FIGURE 4: Continuation of Technique shown in Figure 3. The continuous suture which has been used to close the deeper portions of the wound is tied at A. A fine continuous iodized catgut suture threaded on a long sharp slender needle is now being introduced to close the cutaneous and subcutaneous parts of the wound.

FIGURE 5.



EXPLANATION OF FIGURE 5: Dressing of the wound. A and B, a dressing which consists of cotton between two layers of gauze is being fastened to the wound by means of a small wad of cotton saturated with collodion in the grasp of a dressing forceps. This leaves the wound in contact with a securely fastened absorbent dressing. C—The dressing shown in A and B is further held in place by means of perforated adhesive plaster so placed that the patient's thighs may be flexed without causing it to be torn up at the lower margin. If this plaster were placed straight across the body on a level with the pubes flexure of the thighs would loosen it. An abdominal binder is unnecessary except to give the patient a sense of support; it is not used as a part of the dressing.

...Private Rooms...

The private rooms of the Hospital are maintained for the benefit of those who desire superior accommodations and are able to pay the Hospital charges in full.

The reputable and otherwise acceptable physicians of the city are invited to treat their patients in the private rooms. They will have at their disposal all the facilities of the institution.

RATES:

Rooms (2 and 3 beds), $12 to $14 each bed per week. Single rooms $16 and upward per week. Special Nurse, undergraduate, $15 per week. Special Nurse, graduate, $28.50 per week.

Rates are the same whether the patient be a child or an adult.

The rates named include room, board, ordinary medicines and dressings, the services of the nurse of the ward, and of the House Staff. All fractions of a day will be charged for as a day.

An extra charge will be made for examinations made in the Pathological Laboratory, for the use of the operating room, for the services of special nurses when they are required, either by order of the Attending Physician or Surgeon, or to meet the demands of the patient, and for all extraordinary articles of diet, wines, medicines, apparatus, dressings, etc.

Friends of patients will be accommodated with room and board (the regular bill of fare only) when conditions will permit. The rate for any room will be the same as though occupied by a patient.

Personal clothing will not be furnished patients, nor will patients' clothing be laundered.

The Hospital will not be responsible for money or valuables unless they are deposited in the office for safe keeping.

Visitors will be admitted between the hours of 10 a. m. and 9 p. m., unless their presence is deemed prejudicial to the welfare of the patient.

Complaints should be made directly to the Superintendent.

All bills are payable strictly in advance.

...Open Wards...

The maximum rate is $8 per week. In cases where the circumstances warrant it a reduction is made, and a certain proportion are admitted free.

AS TO FEES:

Pay patients should make their own arrangements as to fees with the members of the Medical Board by whom they are treated.

"No member of the Attending Staff will make any charge for professional services for attendance upon any patient who does not pay in full the Hospital charge for board, room and nursing; where the patient is nominated by the endower of a bed or room, but is nevertheless able to pay for the services of the physician or surgeon in charge, physicians' or surgeons' fees may be charged, if in the discretion of the Hospital authorities it is thought just and proper.

"The services of the Attending Staff are gratuitous to all patients who, in the judgment of tbe Hospital authorities, are unable to pay for the same.

"No officer, interne, nurse or servant is allowed to receive any fee or gift from a patient without the formal permission of the Board of Trustees."